South African Medical Journal

Organ of the Medical Association of South Africa

S.-A. Tydskrif vir Geneeskunde

Vakblad van die Mediese Vereniging van Suid-Afrika

Incorporating the *South African Medical Record* and the *Medical Journal of South Africa*

REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER

Vol. 26, No. 12 | Cape Town, 22 March 1952 | Weekly 2s 6d

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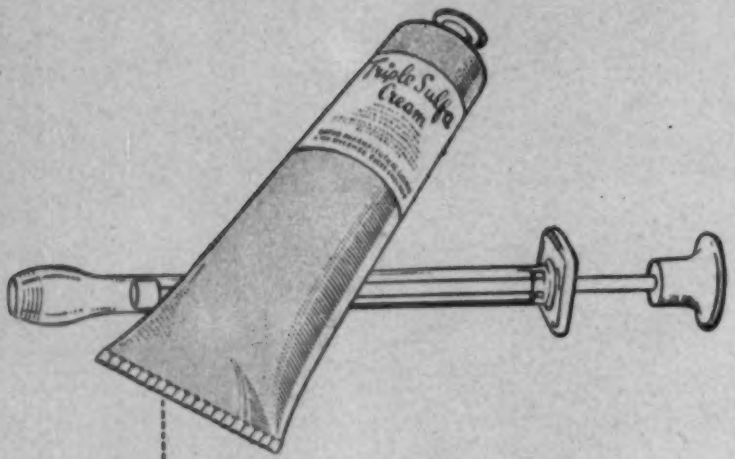

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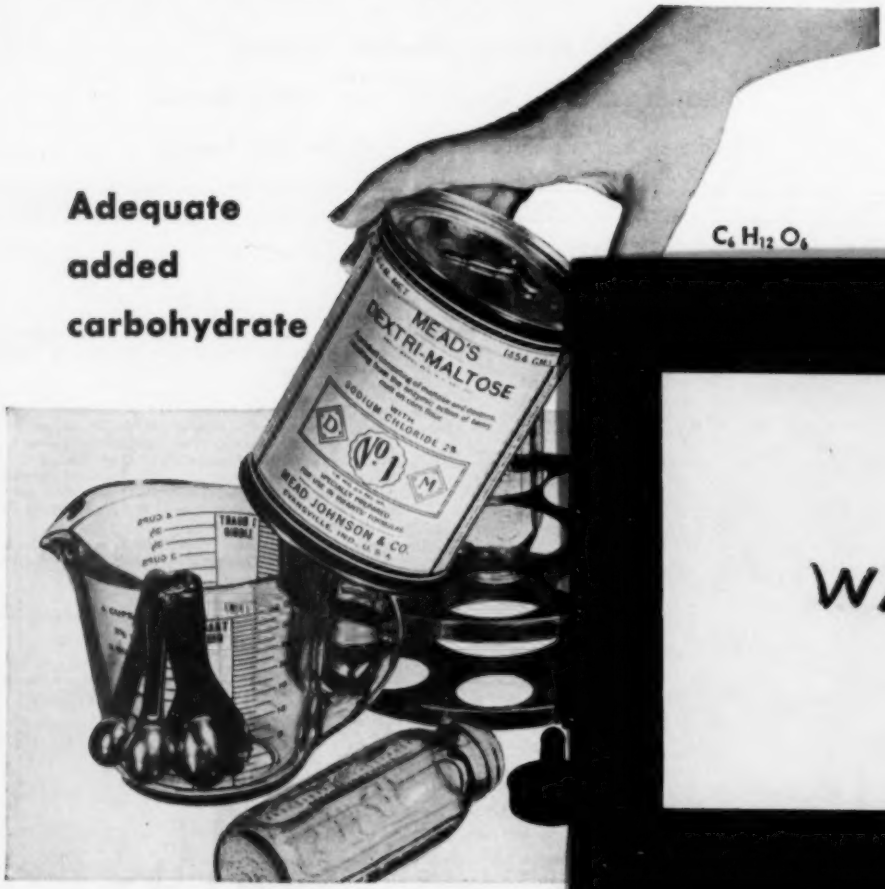

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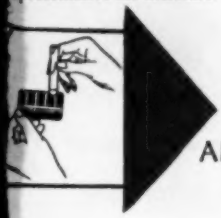

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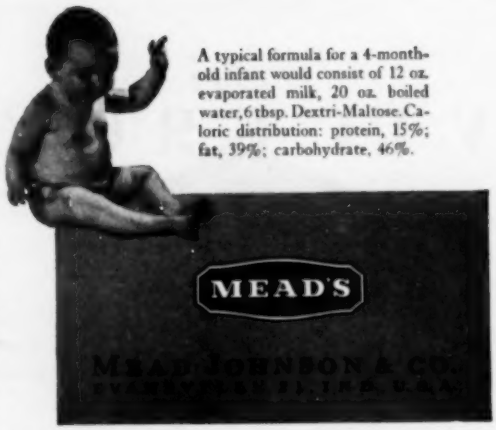

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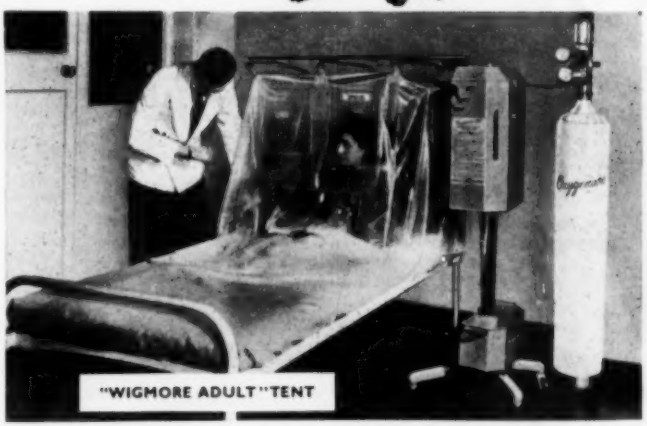

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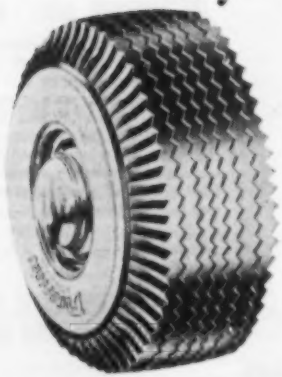

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AN UNUSUAL SWELLING OF THE BREAST

LIPOMA IN A BANTU FEMALE

E. CHIGIER, M.B., B.CH.
Coronation Hospital, Johannesburg

S., a Bantu female between 60-65 years of age, and in good health, presented with a swelling in her right breast, on 6 June 1951.

Three years ago she noticed a swelling in her right breast which since that period has grown only slightly in size. She was quite definite that she had sustained no injury whatsoever. The swelling was quite painless, and did not bother her in any way except that she was concerned that it might get bigger. There had been no bleeding or any other discharge from either nipple, nor had any lumps been noticed elsewhere on her body.

She feels quite well, but on direct questioning, she thinks that she has lost some weight over the past year or so. She has a slight cough, which is non-productive, and has never had a haemoptysis. Her appetite is good and her bowels work regularly. There is slight burning on micturition and a slight vaginal discharge, but no vaginal bleeding. She had her menopause about 6 years ago. Her last child was born in 1938 and was breast-fed for two years.

On Examination. She was an elderly female, slender in build but not showing any signs of emaciation. Nothing abnormal was noted about the head and neck, and the cardio-vascular and respiratory systems were normal clinically (blood pressure, 140/90 mm. Hg; pulse rate 80 per minute). The abdomen was quite soft with no masses palpable. No neurological lesion was present.

The left breast was normal and no glands were palpable in the left axilla. The right breast was larger than the left but the nipples were at the same level. No dimpling or any other skin changes were seen, but bluish veins were present over the lateral aspect. The lateral quadrants of the breast were completely occupied by a large swelling which was soft, mobile, non-tender and nodular. In the axillary tail of Spence a similar swelling was present which was a little harder and irregular, but it was considered to be an extension of the mass in the breast. There was no discharge from the nipple and both breasts were of the same warmth to the touch. The swelling did not transilluminate and was easily palpable with the flat of the hand. No glands were palpable in the right axilla, or in the supraclavicular area.

A vaginal examination revealed nothing of note.

An X-ray of the chest was normal and a full blood count failed to reveal anything of significance.

In view of the long history, the general well-being of the patient and the absence of palpable glands in the presence of such a large swelling, the possibility of a benign neoplastic lesion was considered very likely, despite the patient's being at the age where over 80% of swellings in the breast are malignant. A fibro-adenoma of the breast was considered very likely, and when the case was presented at a clinical conference, a lipoma was suggested, although it was admitted than no cases of lipoma had been seen by any of the participants in this discussion.

On 12 June a mastectomy was carried out under general anaesthesia by Mr. Kleinot. An extensive elliptical incision was made extending from the axilla down to below the right nipple and encircling it. The mass was found to be mobile and to consist of one swelling extending into the axillary tail of Spence. It was very soft, macroscopically resembling a lipoma, and was removed together with the breast. No enlarged glands were found in the axilla. She made an uninterrupted recovery and was discharged on 26 June.

The report from the South African Institute of Medical Research stated: 'Microscopic examination of this specimen from the breast shows the presence of a simple lipoma.'

A representative survey of the literature on mammary lipoma is included in Table I.

DISCUSSION

Lipoma of the breast is regarded as a fairly rare condition. Few textbooks of surgery mention the condition, and only a few references are found in the literature.

In de Chalnoky's series,[6] lipoma of the breast comprised

TABLE I

Date	Author	Number	Age (Average) (Years)	Duration (Years)	Trauma	Pain	Skin Changes	Associated Pathology	Males	Sarcoma	Remarks
1860	Grey's Hospital	1	87	58	—	—	—	—	0	0	23 inches in circumference
1920	Fitzwilliam ..	3	55	3	1	2	0	2	0	0	Two cases had carcinoma
1932	Adair, Pack and Farrier	15	—	—	—	—	—	—	—	0	Usually retro-mammary
1934	Geschichter ..	39	—	—	—	—	—	—	—	3	Five cases had multiple lesions
1935	Menville ..	24	45	3	.6	16	1	4	2	0	Usually trans-illuminate
1939	de Cholnoky ..	27	—	—	—	—	—	—	1	0	3·7% of benign tumours
1945	Spalding ..	3	—	—	—	—	—	—	—	—	—
1946	Halpert ..	1	34	8	0	0	0	0	0	0	No recurrence after 3½ years
1948	Tedeschi ..	12	45	0—5	2	10	0	3	1	1	Two cases had multiple lesions
1949	Saltstein and Pollack	7	43	1—3	1	2	0	—	1	0	One case a recurrence
1950	Snyder, Snyder Grosjean	7	45	—	—	—	—	—	1	0	7% of benign tumours
	Total ..	167	50	—	—	—	—	—	6	4	—

3.7% of all cases of simple tumours and 1% of all pathological conditions of the breast. These figures correspond with the 2% figure reported by Klenschmidt.[12] Both Snyder[11] and Saltstein and Pollack[10] report lipomas of the breasts as 7% of benign tumours of the breast.

Some authors have attempted to classify their cases according to site, most commonly into subcutaneous, intro-mammary or retro-mammary. According to Geschichter[4] practically all of the lipomas were superficial, i.e. anterior to the mammary gland proper. Adair, Pack and Farrier[3] found most of their cases to be retro-mammary while Tedeschi[9] found only one retro-mammary lipoma. It is generally agreed, however, that the true intra-mammary lipoma is exceedingly rare.

Lipoma of the breast is usually single, although Geschichter[4] mentions 5 cases in which either both breasts were involved, or multiple fatty nodules were present in the same breast; while Tedeschi mentions 2 cases in which the multiplicity of the lesions might obviously lead to a false impression of cystic disease.

The age at which the lesion presented varied from 1-87 years, but the average age was found to be in the 40-50 year group. Six cases in males are reported.

Lipomas of the breast usually present as a slow-growing, painless, single, fairly soft and mobile tumour in the breast, and in only a few cases (4.4% in Menville's series[5]) are skin changes present. Liposarcoma is exceedingly rare, 4 cases having been found in 167 fatty tumours of the breast.

The diagnosis is not usually easy but can be made if the condition is borne in mind, and a careful history and clinical examination carried out.

SUMMARY

A large lipoma of the right mammary gland was observed in a 60-65-year-old Bantu female. A survey of the literature disclosed that lipoma of the breast is a rare condition.

I wish to thank my Chief (Mr. Kleinot) and the Superintendent (Dr. Gordon) for permission to publish this case and the South African Institute for Medical Research for its report.

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2. Fitzwilliam (1925): Lancet, **1**, 1074.
3. Adair, Pack and Farrier (1932): Amer. J. Cancer, **16**, 1104.
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9. Tedeschi (1948): Arch. Path., **46**, 385.
10. Saltstein and Pollack (1949): J. Amer. Med. Assoc., **140**, 997.
11. Snyder, Snyder and Grosjean (1950): *Southern Surgeon*, p. 555.
12. Kleinschmidt (1931): Chirurg. **3**, 297.

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Potterfield, T. C., and Starkweather, C. A.: J. Philadelphia General Hosp. 2: 6 (Jan.) 1951.

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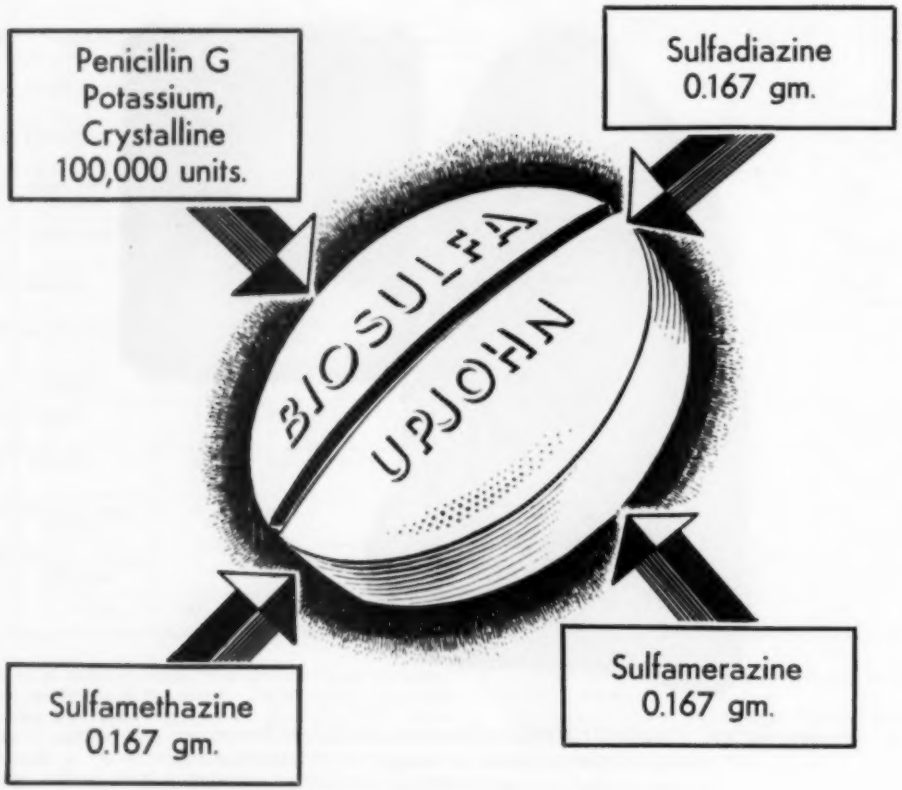

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VAN DIE REDAKSIE

SELF-BETASTING EN BORSKANKER

'n Volgehoue program is in die Verenigde State en elders onderneem om vrouens aan te moedig om hulle borste gereeld te ondersoek. Dit word geargumenteer dat dit die bedreiging van borskanker by die vroulike geslag sal bestry. Dit is die mening dat klonte wat kankeragtig mag wees op hierdie manier op 'n baie vroeë stadium ontdek sal word en so die vrees, wat meeste vrouens vroeër of later omtrent hierdie kwaadaardige moontlikheid ondervind, uitskakel.

Oppervlakkig beskou, wil dit voorkom of hierdie soort voorkomende propaganda redelik is. Die sukses daarvan word natuurlik deur die groter geletterdheid wat nou in die meeste dele van die beskaafde wêreld bestaan, makliker gemaak. Vandag is vrouens, deur middel van populêre geskrifte en kragdadige inligtingsdienste, tot 'n baie groter mate ingelig omtrent die probleme van gesondheid en siekte as wat selfs ongeveer 20 of 25 jaar gelede moontlik was. Advies omtrent self-ondersoek van die bors, gepaard met slagspreuke oor kanker, sal derhalwe geredelik, selfs angstige aandag geniet.

Die probleme wat deur hierdie soort propaganda voor die gees geroep word, is egter nie so eenvoudig as wat die aanneemlike program om self-ondersoek van die bors aan te moedig, sou aandui nie. Die getal vrouens wat werklike borskanker ontwikkel is klein, waarskynlik nie meer as 1% van die vroulike deel van die bevolking nie.[1] Hierdie statistiese feit alleen maak dit baie onwaarskynlik dat enige merkbare verbetering van die algemene posisie as gevolg van die sogenaamde borsoefening sal intree. Dit moet ook in gedagte gehou word dat die 5-jaar oorlewingskoers (sonder terugkeer) wat volg op radikale chirurgie, ongeveer 30-40% is as die algemene loop van gevalle geneem word; en met die vooruitgang van chirurgiese tegniek is hierdie toestand stadig maar seker besig om te verbeter. In 'n onlangse publikasie in hierdie *Tydskrif*,[2] het mnr. G. Sacks 'n 80% 5-jaar oorlewingskoers vir stadium-1 gevalle aangetoon.

Self-ondersoek van die bors hou sekere definitiewe gevare in wat die uitsonderlike geval wat op hierdie manier bevoordeel mag word, meer as uitwis. Senior chirurge wat groot ondervindings op hierdie gebied[3] het, is die mening toegedaan dat, veral tydens die menopouse, die bors in 'n ‚prikkelbare' toestand mag wees wat, as gevolg van oormatige betasting, moontlik aangehelp kan

1. Geschickter, C. F. (1947): *Diseases of the Breast*, 2e druk, bl. 378. Philadelphia: J. B. Lippincott Company.
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EDITORIAL

SELF-PALPATION AND BREAST CANCER

A very sustained programme has been undertaken in the United States and elsewhere to encourage women to examine their breasts regularly, the argument being that this will contend with the menace of breast cancer in the female. It is believed that in this way lumps which may be cancerous will be detected at a very early stage and so eliminate the dread which most women sooner or later have about this malignant possibility.

On a superficial view this kind of preventive propaganda seems reasonable. Its success, of course, is made much easier by the greater literacy which now obtains in most parts of the civilized world. To-day, through the medium of popular publications and high-pressured promotion, women have become informed to a much greater extent about the problems of health and disease than was possible even some 20 or 25 years ago. Advice about self-examination of the breast, coupled with slogans about cancer, will therefore receive ready, even anxious, attention.

The problems raised by this kind of propaganda are not, however, as simple as the plausible programme to encourage self-examination of the breast would indicate. The number of women who actually do develop cancer of the breast is small, probably not more than 1% of the female population.[1] This statistical fact alone makes it extremely unlikely that any appreciable improvement in the over-all situation can result from this so-called breast drill. It must also be remembered that the 5-year survival rate (without recurrence) following radical surgery, is about 30-40%, taking the general run of cases; and with advances in surgical technique, this situation is slowly but surely improving. In a recent publication in this *Journal*,[2] Mr. G. Sacks has indicated an 80% 5-year survival rate for Stage 1 cases.

Self-examination of the breast carries with it certain definite risks which may more than offset the rare case which may be benefited in this way. Senior surgeons of great experience in this field[3] hold the view that, particularly at the menopause, the breast may be in an 'irritable' condition which, as a result of excessive palpation, may conceivably be precipitated into the

1. Geschickter, C. F. (1947): *Diseases of the Breast*, 2nd ed., p. 378. Philadelphia: J. B. Lippincott Co.
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3. Saint, C. F. M. (1951): Private communication.

word om kwaardaardigheid te ontwikkel. Bowendien is dit nie waarskynlik dat alle vrouens hulle borste met dieselfde teerheid en sorg sal betas nie en daar is baie definitiewe gevare van besering en die vorming van hematoom as gevolg van oningeligte en onhandige bevoeling. Dit is ook ewe seker dat baie vrouens klonte of bulte van eie fabrikaat in hulle borste sal ontdek, 'n fout wat veral maklik is om met sulke korrelrige vetagtige organe te begaan. In werklikheid was rib kraakbene al met kwaadaardige klonte verwar met die tragiese emosionele gevolge wat gewoonlik daarmee gepaard gaan.

Dit is as gevolg van hierdie psigologiese verstoring dat daar groot beswaar geopper word teen die aanmoediging van self-ondersoek van die vrou se bors, 'n beswaar wat dringend en kragdadig deur mnr. Sacks gestel word in die verhandeling wat na verwys word. Aangesien slegs ongeveer 1% van die vrouens moontlik borskanker ontwikkel, is die orige 99% blootgestel aan die groot gevaar om nie slegs 'n toestand van hipekondersheid te ontwikkel nie, maar ook (en dit is meer rampspoedig) 'n toestand van kankervrees. Uiteindelik kan daar derhalwe 'n skrikwekkende hoeveelheid kwaad aangerig word in die gedagtes van vrouens wat seer sekerlik nie enige vorm van kwaadaardige siekte van die bors sal ontwikkel nie.

Die slagoffer van kankervrees is nie slegs 'n beproewing vir haarself nie, maar ook vir almal met wie sy in aanraking kom. Haar onmiddellike familiekring sal net soveel daaronder ly as sy self, wat eindelik deur selfmoord 'n uitvlug uit haar dilemma mag soek. Emosionele ontwrigting van 'n meerdere of mindere mate skyn te groot 'n prys om te betaal vir die uiters beperkte voordeel wat self-ondersoek van die bors mag meebring.

Dit lyk nie of die oplossing by die aanmoediging van tegnieke van self-betasting te vinde is nie. Die psigologie van baie vrouens is in werklikheid sulks dat al sou hulle ook klonte vind, sal hulle dit nie aanmeld nie, of hulle sal bang wees om iets daaromtrent meegedeel te word ingeval die inligting onrusbarend kan wees.

Dit wil voorkom of die oplossing heeltemal in 'n ander rigting lê. Baie is reeds geskrywe oor die funksies en status van die familiedokter sowel as sy afnemende sfeer van bedrywigheid. Hier het ons werklik 'n goeie geleentheid om sy onskatbare professionele bedrewenheid by 'n program vir die bestryding van kanker te integreer. 'n Gereelde kliniese ondersoek deur die familiedokter wat die pasiënt in geheel onder sy toesig en sorg hou, kom voor as die beste oplossing. 'n Familiegeneesheer sal nie alarm maak deur spesifiek sy aandag by die moontlikheid van kwaadaardige siekte in die bors, wat slegs een van verskeie organe is wat as 'n kwessie van roetine van tyd tot tyd ondersoek word, te bepaal nie. Dit voorkom ook die groot onreg om die onus om vroeë tekens van ongesteldheid of siekte te ontdek op die pasiënt in plaas van die geneesheer te plaas. Die menslike liggaam is minstens geregtig op daardie pligsgetroue aandag wat meeste van ons aan sulke meganiese besittings soos ons motorkar wei. Ons dring daarop aan dat hulle gereeld bedien word. Soortgelyke besorgdheid oor menslike welsyn deur die behoorlike kanaal gelei, nl. die familiegeneesheer, sal baie meer doen (en sal dit sekerder doen) om kwaadaardige siekte te voorkom, sonder die skrikwekkende gevaar van geestesverstoordheid en vrees by baie angstige vrouens te veroorsaak.

development of malignancy. Moreover, not all women are likely to palpate their breasts with equal gentleness and care and there are very definite dangers of trauma and haematoma formation as a result of uninformed and unskilful meddling. It is also equally certain that many women will detect in their breasts lumps or bumps of their own manufacture—a mistake particularly likely to be made in such granular, fatty organs. Indeed, rib cartilages have been mistaken for malignant lumps, with the tragic emotional consequences invariably entailed.

It is this psychological disturbance which raises a very great objection to the encouragement of self-examination of the female breast, an objection cogently and forcefully put by Mr. Sacks.[2] As only some 1% of women are likely to develop breast cancer, the remaining 99% are subject to the great risk of developing not only a state of hypochondria but also (and this is more sinister) a state of cancerophobia. In the end, therefore, a frightening amount of harm may be wrought in the minds of women who are certain not to develop any form of malignant disease of the breast.

The victim of cancerophobia is a trial not only to herself but also to all those with whom she comes into contact. Her immediate family circle will suffer as much as the victim herself, who may, in the end, seek a suicidal escape from her dilemma. Emotional disorganization of greater or lesser degree seems too great a price to pay for the very limited advantage which self-examination of the breast may confer.

The answer does not seem to be in the encouragement of techniques of self-palpation. Indeed, the psychology of many women is such that even if they found lumps they would not report them, or they would be frightened to be told anything about them in case the information should be alarming.

The answer seems to lie in quite a different direction. Much has been written about the function and the status of the family doctor as well as his waning sphere of activity. Here, indeed, we have a proper occasion for integrating his invaluable professional skills into a programme for combating cancer. A regular clinical examination by the family doctor, who keeps the whole of the patient under his observation and care, seems the best solution. A family physician would not be creating alarm by specifically directing his attention to the possibilities of malignant disease in the breast, which would be only one of several organs examined routinely from time to time. This also avoids the great wrong of putting the onus on the patient instead of the doctor to detect early signs of disorder or disease.

The human frame is entitled to at least that conscientious attention which most of us bestow upon such mechanical possessions as our motor-cars. These we insist on having serviced regularly. A similar concern about human welfare conducted through the proper channel, viz. the family physician, will do much more to prevent malignant disease (and will do it more surely) without the frightening risk of inducing mental instability and phobias in many anxious women.

THE DIEPKLOOF NUTRITION AND HEALTH STUDY ON BANTU BOYS, SOUTH AFRICA

CLINICAL AND DENTAL EXAMINATION, CHEST X-RAYS, ROUTINE LABORATORY EXAMINATION OF STOOLS AND URINE, HAEMOGLOBIN AND PACKED CELL VOLUME, TUBERCULIN AND SCHICK TESTS

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(*Concluded from p. 212*)

EXAMINATION OF THE CARDIOVASCULAR SYSTEM

The cardiovascular systems of the boys were given a routine examination, including inspection, palpation, percussion and auscultation, blood pressure, and pulse rate. Anteroposterior skiagrams were taken of the chest of all the boys.

In the present study the point at issue is to decide which type of examination would detect most cases of heart disorder. Bourne[21] has recently recapitulated the most important points in assessing the state of the heart and cardiovascular system in young people.

He notes that a diagnostic difficulty arises in apparently healthy young adults in connexion with blood pressure. It is often found in nervous subjects and a figure of 180/90 mm. Hg may be noticed. The general behaviour of the patient will give a clue as to his nervous state. Associated tachycardia is nearly always present when the increase in blood pressure is due to nervous causes. In these cases radiographic measurement will show no increase in heart size.

In the present group one case was found with a blood pressure of 160/80 mm. Hg, pulse rate 92 per minute, and a soft systolic murmur on the left side of the sternum, maximal intensity in the second interspace. He was markedly apprehensive during the examination. He had a positive serological reaction for syphilis. His heart and lungs were normal on X-ray. In the other boys no signs of cardiovascular disease were found.

In their monumental work on school children, who were studied from every conceivable angle, in part of the Harvard Growth Study, Sanford *et al.*[22] emphasize the variability of physiological observations in their group of 48 children aged from 5 to 14 years.

Frequency distributions for systolic and diastolic pressures and pulse rates are shown in Table X. These observations were made with the patient in a recumbent position in the course of the routine examination.

The systolic pressure was taken when the first upper sound was heard and the diastolic when the last sound

TABLE X: DIEPKLOOF BANTU BOYS—SYSTOLIC AND DIASTOLIC BLOOD PRESSURE AND PULSE RATE

Systolic Blood Pressure in Millimetres of Mercury		*Diastolic Blood Pressure in Millimetres of Mercury*		*Pulse Rates per Minute*	
Range	*No. of Cases*	*Range*	*No. of Cases*	*Range*	*No. of Cases*
80—	1	40—	1	55—	1
90—	15	45—		60—	5
100—	19	50—	1	65—	10
110—	13	55—		70—	10
120—	7	60—	20	75—	3
130—	1	65—	6	80—	10
140—		70—	24	85—	3
150—		75—	2	90—	5
160—	1	80—	3	95—	3
				100—	6
Case Total:	57	*Case Total:*	57	105—	1
				110—	1
				Case Total:	58
Mean ..	107·3		86·3		81·1
Standard Error ..	±1·74		±1·05		±1·81
Coefficient of Variation ..	12·2%		13·9%		17·0

was heard on running the mercury column down from a high to a low level in the sphygmomanometer.

EXAMINATION OF THE LUNGS

The children were given a routine clinical chest examination and anteroposterior chest skiagrams were taken of 57 boys at the Baragwanath non-European Hospital.

We were fortunate in having the Baragwanath non-European Hospital near Diepkloof so that chest skiagrams could be taken and reported upon by Dr. Margaret Findlay.

In general, chest disease was less common than we expected. There were no cases found of proven pulmonary tuberculosis. The following 4 cases are quoted, as the radiological and clinical findings are interesting:—

1. No. 6731 (Group A), age 14 years 5 months. 'Although the first broncho-vascular shadows look slightly increased there are no definite changes to suggest the presence of bronchiectasis. There is no evidence of hilar adenitis.'

This boy had a positive serological reaction for syphilis, urinary schistosomiasis and a somewhat enlarged liver.

Haemoglobin, 10.9 gm. %;
Total serum protein, 5.5 gm. %;
Serum, gamma globulin, 1.16 gm. %;
Tuberculin test (P.P.D.), negative.

His weight was 97.6 lb. on 1 February, 99.6 lb. on 1 May and 104.8 lb. on 1 August. Between February and the beginning of June 1951 he had no illness.

2. No. 6534 (Group A), age 14 years 2 months. 'The shadowing in the right upper lobe which was thought to be due to tuberculous infiltration has disappeared almost completely. This was apparently a second episode of a pneumonitis. The patient previously had bilateral midzone shadowing resembling pneumonia. As the patient is now known to be suffering from bilharzia, it is considered possible that these are allergic episodes in the nature of Loeffler's syndrome.

'There is no evidence of hilar adenitis. It is noted that there is some pleural thickening of the left side. This was present at the last examination, but not in the preceding examination, when he had bilateral midzone shadowing.'

This boy had a negative serological reaction for syphilis. He suffered from urinary schistosomiasis and had a positive tuberculin test (P.P.D.). His liver was somewhat enlarged.

Haemoglobin, 14.3 gm. %;
Total serum protein, 6.7 gm. %;
Gamma globulin, 1 gm. % serum.

His weight came to 82.8 lb. on 1 February, 85.6 lb. on 1 May, and 90 lb. on 1 August.

Between February and the beginning of June 1951 he had three bouts of 'influenza', which could have been a virus pneumonia had it not been for the co-existence of schistosomiasis, which makes the diagnosis difficult. He received 14 intramuscular injections of Fouadin during the period 22 February to 26 March 1951.

3. No. 6612 (Group A), age 13 years 11 months. 'There is evidence of a healed primary tuberculous complex on the right. The pulmonary vascular shadows are slightly exaggerated. There is no definite evidence of active Koch's infection and glandular enlargement is not apparent.'

This boy had a negative serological reaction for syphilis, and his liver was enlarged two fingers below the costal margin. Liver function tests were as follows:—

Thymol turbidity, 7.0 Maclagan units;
Thymol flucculation, + + + ;
Colloidal gold, 4;
Gamma globulin, 2.5 gm. %;
Urine amino acid, small glycine spots;
Van den Bergh test, type II + ;
Bromsulphthalein retention, 0.32 mg. %.
Total serum protein, 6.4 gm. %;
Haemoglobin, 14.7 gm. %;
Tuberculin test, positive (P.P.D.).

His weight was 81.8 lb. on 1 February, 86.9 lb. on 1 May and 87.5 lb. on 1 August. This boy had no illness between February and the beginning of June 1951.

The main pathological condition was liver damage.

4. No. 6611 (Group B), age 13 years 11 months. 'In a posteroanterior view a good inspiratory film was not obtained. It does look as though there were a slightly enlarged right paratracheal gland. Glandular enlargement is not obvious in lateral view. At a previous examination it looked as though there were some enlargement of the left hilar glands but this is not now apparent. It is requested that this patient have further tubercular tests and further follow-up examination.'

This boy also had urinary schistosomiasis.

Haemoglobin, 12.4 gm. %;
Serum protein, 8.5 gm. %;
Gamma globulin, 0.52 gm. % serum.
Tuberculin test (P.P.D.), negative.

This boy weighed 77.6 lb. on 1 February, 80 lb. on 1 May and 88 lb. on 1 August.

These boys will be kept under observation and watched for further signs of disease.

Tuberculin Tests. The tuberculin test (P.P.D. 0.00002 mg. in 0.1 c.c.) was positive in 32 children out of 57 (56.1%), which is lower than expected in view of the high prevalence of tubercle infection amongst the Bantu. There were 19 positives in Group A (65.5%) and 13 in Group B (46.4%).

ABDOMEN

In examining the abdomen, the children were palpated on a couch. Ten cases were found with enlarged livers, not of a marked degree. Of these, 6 were in Group A and 4 in Group B. In a later paper the state of the livers in this group of children will be discussed in relation to a group of liver function tests.

Three cases, all in Group A, were found in whom there appeared to be a slight enlargement of the spleen. One of them, No. 6774, had a positive serological reaction for syphilis.

It will be realized that it is not easy to decide at which point the size of an organ changes from physiological to pathological enlargement. In this debatable borderline there is room for much disagreement which can be resolved only by further investigations. The children with the slightly enlarged spleens give no history of fever and were not ill during the six months of the investigation. In the absence of fever or illness there would have been no point in examining smears for malaria. Also, they had come from parts of the country where malaria does not occur.

CENTRAL NERVOUS SYSTEM

A simple routine examination was made of the central nervous system, including pupil reflexes, eye movements, hearing, knee and ankle jerks. Distant vision was tested on a Snellen's chart. There were no cases of increased calf tenderness. Fundi were examined. No abnormalities of the central nervous system were discovered. There were no cases of strabismus or myopia.

EXAMINATION OF BLOOD

The blood samples taken were examined in the Routine Division of the South African Institute for Medical Research, for haemoglobin, packed cell volume and serological tests for syphilis.

Haemoglobin determinations by a sound method and packed cell volumes are amongst the most accurate of haematological procedures (Biggs and Macmillan [23]).

It should be noted that samples of haemoglobin were estimated on venous blood (Table XI).

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TABLE XI: DIEPKLOOF BANTU BOYS—HAEMOGLOBIN AND HAEMATHROCRIT VALUES

Haemoglobin		*Haematocrit*	
Grammes%	*No. of cases*	*Percentage*	*No. of cases*
10—	1	33—	2
11—	2	35—	2
12—	11	37—	6
13—	15	39—	9
14—	16	41—	7
15—	11	43—	13
16—	1	45—	10
		47—	3
Case Total:	57	49—	5
		Case Total:	57
Mean ..	13·9 gramme	42·44	—
Standard Error ..	±0·16	±0·52	
Coefficient of Variation..	8·9%	9·2%	

Other observations on haemoglobin values of Native children at the same altitude, 5,775 feet above sea level, have been made by Gear [24] on 132 Bantu school children. He found a mean value of 13.45 gm.%, with a range of 10.26 gm. % to 17.86 gm. %.

For Cape Coloured children at sea level, Latsky [25] found a mean value of 14.51 gm. % range 11.36 gm. % to 18.00 gm. %. He used a Sicca haemometer and venous blood.

Of the 60 children in our series only 3 had a haemoglobin value of less than 12 gm. %. No. 6756 had a value of 11.9 gm. %. He appeared to be quite healthy. No. 6731, with a haemoglobin value of 10.9 gm. %, had schistosomiasis, a slightly enlarged liver and a positive serological test for syphilis. Tuberculin (P.P.D.) test was negative. The haemoglobin of No. 6651 was 11.2 gm. %. He was apparently in a good state of health. In a previous survey on Cape Coloured children of Knysna, Cape Province, le Riche [18] found a mean haemoglobin value of 12.2 gm. %. In this group 52 out of 105 had a haemoglobin reading of less than 12 gm. %. The haemoglobin estimations were done by the Sahli method on capillary blood.

The prevalence of intestinal worms was 71.8% in the Cape Coloured children, mainly *Ascaris lumbricoides*, as against a parasite rate of 44.1% in the Native children in the present study. In the latter 2 cases of amoebic cysts, and 8 of *Chilomastix mesnili* are included. It can be taken that parasitic infestation was virtually twice as high in the Knysna Coloured children as in the Bantu boys of Diepkloof. Whether this would account for the differences would be difficult to say. What should also be realized are that Knysna is at sea level, Diepkloof at an altitude of 5,775 feet, the dietary habits of the two groups are different, and the Cape Coloured population and the Bantu are of differing racial composition (le Riche [26]). Schepers [27] considers a haemoglobin of 20.4 gm. % to be the normal for adult white males at an altitude of 6,000 feet above sea level.

The haemoglobin estimations and the packed cell volume appeared to us to be two accurate haemological examinations which could be done with ease. The Mean Corpuscular Haemoglobin Concentration (M.C.H.C.) was also calculated. We found a mean of 32.65 gm. % packed red cells. There were 21 cases with a M.C.H.C. below 32 gm. %.

Serological Tests for Syphilis. The modified Ide test was used as a test for syphilis. In this group of 57 boys 11 were found to be positive and one doubtful. These children had none of the stigmata of congenital syphilis.

In Group A, 7 out of 29 tested were positive, while 4 positives were found in 28 cases in Group B.

EXAMINATION OF URINE

The findings in regard to urine are shown in Table XII. The prevalence of urinary disease is high.

TABLE XII: DIEPKLOOF BANTU BOYS—EXAMINATION OF URINE

	Group A	*Group B*	*Both Groups*	*Percentage of Both Groups*
No Abnormality Detected.. ..	26	18	44	73·0
Albumin	—	1	1	1·6
S. haematobium Ova	3	6	9	13·9
Bacilluria	1	5	6	10·0

The case with albuminuria appeared to be healthy. There was no sign of kidney disease. His blood pressure was 110/60 mm. Hg. He had no stigmata, but the serological test for syphilis was positive.

Comparing the two groups, there were significantly more cases of abnormal urines in Group B (χ^2 test, P between 0.05 and 0.02).

The cases of bacilluria were all *B. coli*, in one case associated with *Staphylococcus albus*. There were varying degrees of pus and also blood in the urines.

We have no doubt that cystoscopic examinations would have brought more cases of schistosomiasis to light. The boys with the pyuria did not complain of pain on micturition or of frequency.

The haemoglobin values for 8 of the 9 boys with schistosomiasis were 14.3, 12.5, 10.9, 15.4, 13.1, 13.5, 15.4 and 12.4 gm. % respectively.

STOOLS

Examination of stools was carried out at the South African Institute for Medical Research directly and after zinc sulphate flotation.

Our results are shown in Table XIII. Infested stools are virtually equal in number in both groups, though lower than in Durban, as shown in Table XIV.

Schick Tests. One case showed a positive Schick reaction.

Classification. When clinically examined for the first time and when the results of urine examinations were known 27 out of the 60 boys were placed in the group 'No abnormality detected'. The rest were placed in the category 'Requiring medical or nursing care'.

In the final assessment only 16 boys were placed in the group 'No abnormality detected', 11 from Group A and

TABLE XIII: DIEPKLOOF BANTU BOYS—STOOLS

	Group A	Group B	Both Groups	Percentage of Both Groups
	29	30	59	—
Normal	16	17	33	55·9
Blood	—	1	1	1·7
Cysts of *Entamoeba histolytica* ..	—	1	1	1·7
Cysts of *Entamoeba hystolytica* and Cysts of *Chilomastix mesnili*	—	1	1	1·7
Ascaris lumbricoides	2	1	3	5·1
Ascaris lumbricoides and Flagellate Forms of *Chilomastix mesnili* ..	—	1	1	1·7
Taenia saginata ..	—	1	1	1·7
Taenia (Ova) ..	2	1	3	5·1
Taenia (Ova) and Flagellate Forms of *Chilomastix mesnili*	—	1	1	1·7
Hymenolepis nana ..	1	1	2	3·4
Trichuris	1	—	1	1·7
Trichomonas hominis (Flagellate Forms)	1	—	1	1·7
Gardia intestinalis ..	1	1	2	3·4
Chilomastix mesnili (Flagellate Forms)	—	3	3	5·1
Chilomastix mesnili (Cysts)	5	—	5	8·5

TABLE XIV: HELMINTH INFECTION IN 613 AFRICANS IN DURBAN[29]

Helminth	Percentage Infected
Ascaris lumbricoides	43·0
Trichuris trichiura	32·0
Hookworm	1·3
Strongyloides stercoralis	0·3
Schistosoma mansoni	0·3
Taenia	2·1
Hymenolepis nana	0·2

5 from Group B. The difference between these numbers in the two groups is not statistically significant by the χ^2 test.

DISCUSSION

It is difficult to regard the various signs of dietary deficiency as definitely indicating a pathological state in the present group of children. About one-third of them had skins which appeared to be unsatisfactory. The thickening and pigmentation of the sclera may or may not be a sign of dietary deficiency. About half of the cases had signs of chronic cheilosis, no doubt of long standing. There were 5 cases of acute cheilosis. Dental caries, usually involving only a few teeth in each child was found in about half the cases. Gingivitis of a moderate degree was common.

Laboratory tests showed that 45% had intestinal parasites, 13.9% urinary schistosomiasis and 10% bacilluria. No case was found of pulmonary tuberculosis on X-ray, although 4 cases remain under observation. The modified Ide test for syphilis was positive in 11 cases out of 57. The question arises whether this necessarily indicates some form of syphilis. Haemoglobin values were high, as a mean of 13.9 ± 0.16 gm. % would indicate.

What cannot be disentangled at present is the possible influence of diseases like intestinal helminths, urinary schistosomiasis, and *B. coli* bacilluria on those signs commonly regarded as being signs of malnutrition. One case was found who had definite liver damage according to the tests used. He also had ascariasis. There were a number of cases in whom the liver function tests were equivocal. We hope that future work will contribute to a better understanding of the problems set in the present study.

The project could not have been undertaken had it not been for the co-operation of the Secretary for Education, Arts and Science and his staff at Diepkloof. The Council for Scientific and Industrial Research, the South African Institute for Medical Research and the University of Pretoria, assisted with various laboratory determinations. The Director of Hospitals, Transvaal, kindly arranged for chest skiagrams, through the Superintendent of the Baragwanath Non-European hospital.

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ANNOTATION

HAEMYTHOLOGY: IV.—BLOODY AFRICA

BY POLIOCYTE

It was fortunate, haematologically speaking, that the Americas were partly colonized by African Natives because the little light that shines over this dark Continent is mainly the reflection from the New World.

We are informed that Addisonian pernicious anaemia is virtually absent in the Native; in fact only very recently has the first case been described.[1] We (at least the present author) do not know, although we ought to, whether achlorhydria is similarly absent in the Native. Achlorhydria is a well-known complication of malnutrition and is therefore found in only too many Natives, but we are here concerned with the genetically determined achlorhydria, a Mendelian dominant of varying expressivity: achlorhydria, gastric atrophy, pernicious anaemia, subacute combined degeneration of the cord. Those young clinicians frantically in search of a subject for a thesis might take notice.

The flat cells of Cooley's anaemia and the round cells of acholuric family jaundice are only very rarely found in the Native. In this connexion one must be most careful with reports from America, where a 'Negro' may mean anybody from dilute café-au-lait to pitch black. The sickle cell, on the other hand, is specifically Native.

Among the haemorrhagic diseases Werlhof's purpura is extremely rare and haemophilia is completely unknown in the African, who is compensated by his own speciality: onyalai. This is the single blood condition that was first described in Africa. Wellman[2] mentioned it in a 'conspectus' of diseases found in the highlands of West Central Africa (Angola). He classified it under local conditions—not under blood disorders—and did not speculate about the nature of the disease. Now, after 50 years, all we know is that onyalai is an acute thrombocytopenic purpura associated with haemorrhagic bullae, but the speculations about its nature are legion and therefore not worth reviewing.

The main interest in African blood lies in its genetical and ethnological revelations, as borne out by the sickle cell trait and the blood groups.

A superficial glance at the map (Fig. 1) showing the known sickle cell distribution is most gratifying. The sickle cell arose somewhere near the Ruwenzori range (hence perhaps the mysterious name: the Mountains of the Moon?) and spread from there over the whole continent wherever the 'Negro' trekked, but thinning out the further it passed from its source. In America the incidence among 'Negroes' is still some 7-8%.

If, however, a more detailed survey is made, as has been done by Lehmann and Raper in Uganda,[3] the picture becomes more complicated, but also more fascinating. The highest percentage ever recorded (45% among 140 persons examined) was found among the Baamba, a pygmoid people living to the west of Ruwenzori and therefore only a short distance from the true pygmy Negritos (or Negrillos) who are believed to be entirely distinct in origin from all other African people and should not be confused with the small true Negroes, also living in the equatorial tropical forests.

On the other hand, the lowest percentage (0.8-3.9) was found among the Hamite tribes, the people from the North who in so many other ways show their affinity to the 'Caucasian' race.

The 'half-Hamites' and 'Nilotic' tribes, a mixture of Hamites and true Negroes ethnologically classified purely on linguistic grounds, were peculiarly consistent in their sickle cell percentage (21-28%), whereas the 'Bantu' tribes, also a mixture of Hamites and true Negroes separated linguistically, showed great variation (2-30%); in nearly all instances this variation could be explained on historical grounds by the varying contact of the different tribes with the Hamites.

How much Negrito pygmy blood flows in the veins of the Nilotes and Bantu is not known, but there is little doubt that even in historical times the Negritos inhabited a much larger area of Africa than the little strip of tropical forests where they are now confined.

The excellent survey of Lehmann and Raper, which involved nearly 10% of the population of Uganda and must therefore be considered fairly representative, and our little map demonstrates forcefully the possibilities offered by the sickle cell, especially when it is remembered that hundreds of bloods can be tested in a day, and that the inheritance of the trait is of the simplest known.

Where and when did the trait arise? Was it among the true Negroes of West Africa who still have a high percentage, or did they get it from the pygmy Negritos? Why is it so rare south of the Limpopo,[4] or is that not really true? The Bushman and Hottentot seem never to have possessed the gene if one can judge from its infrequency among Cape Coloureds, who are mainly descended from these people and have very little Bantu admixture.

The blood groups of Africa should be of equal importance, but here, unfortunately, the picture has been obscured in the literature by premature theorizing based on completely insufficient data. The latest work on the ABO groups[5] illustrate this point. It is the usual attempt to work out vast migrations of prehistoric peoples from the distribution of the groups as found to-day. The whole erudite and most complicated structure is built up on the assumption that all men originally belonged to group O, by which the author apparently means that they had no group at all. The fact that groups identical to the human are found in anthropoid apes is disregarded. Because at present more group B is found in Asia and more A in Scandinavia, it is stipulated that these groups arose as mutations in these respective places, and it is further argued that all known living races of mankind were isolated before these mutations occurred. This is the complete elaboration of Hirszfeld's[6] original speculation about an evolution of A and B from O, which was largely based on the old idea, now disproved, that American Indians belong only to group O.

In these considerations the factor of genetic drift is ignored. Lundman,[7] whose beautiful maps of the blood groups of the world were apparently not available to the author, puts it rather well: 'On the whole, the elimination theory (same as genetic drift) explains many irregu-

larities of the blood alleles. It makes the scientist less inclined to construct great world-embracing wanderings of people in prehistoric times, only on the basis of modern serological values.'

Finally, attention might be drawn to the conclusions among the population. Very few of the surveys used in the construction of blood group maps in Africa or elsewhere fulfil this criterion, and the real value that blood groups offer to anthropology will unhappily be discredited by such use of small unrepresentative samples.

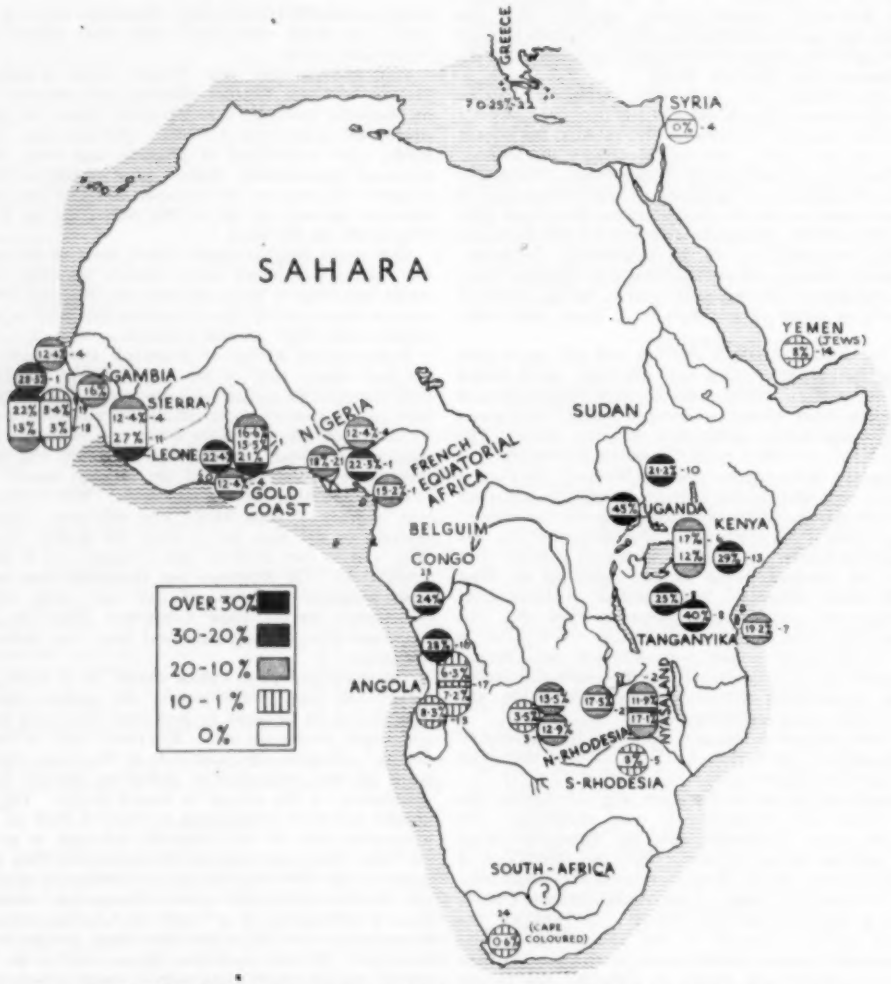

Fig. 1. Map illustrating the present knowledge of the distribution of the sickle cell trait.

reached after a careful survey in Egypt.[8] A sample of 10,045 Egyptians was tested for the ABO groups. The results differed enormously from those of previous investigators, but it was concluded that had the number examined by those workers been larger, such variations would not have been found to exist. It was quite convincingly shown that any sample below 3,000 was quite useless in presenting the distribution of these groups

From a racial point of view (whatever that may mean) the distribution of the Rh blood types in Africa should be of great interest. Table I gives the available knowledge with regard to the most interesting features.

As usual, the first information came from America. It is unfortunate that the latest information,[13] which appears to be based on good work, should have been written in such a way that the main points are completely lost to the

TABLE!

Year	Place	Population	Number of Persons	Genotype rh or cde (i.e. Rh-negative)	Genotype Rh_0 or cDe
1946[9]	U.S.A...	..'Negroes'	223	8·1	41·2
1947[10]	Johannesburg..	'Bantu'	300	5·3	64·3
1949[11]	Belgian Congo	'Pygmoid'	94	1·1	54·2
1949[12]	Koubba	..Egyptian Soldiers	600	3·17	17·5
1951[13]	Johannesburg..	'Bantu'	1,200	3·6	64
1946[9]	U.S.A...	.. Whites	7,317	14·7	2·2

ordinary reader in a welter of complex juggling with figures. The art of writing—in spite of Proust and Joyce—still remains the same: to present facts, feelings or ideas in a simple, clear and sometimes beautiful manner.

Even more unfortunate is the absence in the article of reference to the earlier observations.[10] After all, the whole African medical literature could be printed in a few *Penguin* books and reference to previous work—critical or appreciative—is well worth while.

The outstanding fact remains that African Natives, as far as they have been tested, are unique among all people of this earth in possessing an enormously high percentage of the genotype Rh_0 or *cDe*. Whether this applies equally to true Pygmy Negritos, Hamites, Bushmen and Hottentots is yet to be discovered.

It should now be clear that most of the work on African blood has still to be done. It would be gratifying if this work originated and was done in Africa and, in view of the world-wide interest it would arouse, no effort or money should be spared to have it carried out. The origin and diversity of mankind must always remain a problem of enduring fascination to even the most wooden mind.

It would appear that in this work the main contribution of the haematologist and the serologist will be to demonstrate to the anthropologist and the ethnologist the utter simplicity of the laboratory methods by which the facts may be obtained. They, in turn, must then roam over the continent and gather the evidence that will complete the picture. That is rather a pity, because great fun can be derived from such roaming as so ably illustrated by Elsdon-Dew [14] who must remain the outstanding pioneer among the blood group workers of Africa.

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THE SICKLE CELL TRAIT IN CAPE COLOURED PERSONS

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A sample of 1,555 Cape Coloureds has been examined for the sickle-cell trait by a slight modification of the rapid method of Williams and Mackey,[1] using sodium hyposulphite ($Na_2S_2O_4$) as the reducing agent.

As all the tests were carried out under identical conditions, there is no reason to believe that false positive results were produced. There were no doubtful cases: the appearance of the blood from persons with the sickle-cell trait was distinct and could not be mistaken for normal blood or blood in other haematological conditions. The sample consisted of persons who believed themselves to be Cape Coloured and of normal health. They were working people in the age group from $\pm$ 20 to $\pm$ 40 years. The proportion of females to males was about 10:1.

Nine of the 1,555 showed the sickle-cell trait, an incidence of 0.58%.

Altmann [2] tested the blood of 403 male South African

Bantu by the sealed cover-slip method, examining the preparation after 24 hours. He found only one sickle-cell trait in his sample, an incidence of 0.25%. Griffith (quoted by Grek and Findlay[3]) is reported to have examined more than 600 Bantu in Johannesburg and to have found only 2 sickle-cell traits among them. The method used is not stated.

The very low incidence in these previous surveys is most surprising. The map of the incidence of the sickle-cell trait in Africa published by *Poliocyte*[4] would indicate an expectation of some 6-8% in the South African Bantu. The present finding of 0.58% sicklers in Cape Coloured persons can probably only be explained by admixture of Bantu into this people and would therefore also suggest a much higher incidence among the Bantu. It is obviously desirable that larger surveys using the most efficient method for the demonstration of the sickle-cell trait be undertaken among the South African Bantu.

SUMMARY

In a survey of 1,555 Cape Coloureds the incidence of the sickle-cell trait was found to be 0.58%.

We should like to thank Dr. O. E. Budtz-Olsen for his assistance, and the Department of Physiology, University of Cape Town, for facilities to carry out this survey.

We are particularly grateful to the several industrial firms which allowed us to examine their employees in spite of considerable disruption of the smooth working of the factories.

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THE AIMS AND TASKS OF UNDERGRADUATE MEDICAL EDUCATION IN SOUTH AFRICA*

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I. THE AIMS

The primary aim of any South African medical school is to produce a man fit to begin medical practice in South Africa. This does not imply that he need be fully competent, for that would take more than six years of training.[1, 2] As regards experience and general vocational ability, we may have to be satisfied with a lower standard than has, in the past, been thought necessary, but in general culture we may well demand more. The graduate requires sufficient knowledge and experience to make a start in practice. In view of the isolation of many districts, he should be able to handle every likely emergency, to recognize the symptoms and signs of grave disease, especially in the early stages, and he should be familiar with the commoner indigenous diseases.[1] As regards those conditions which he is unable to treat adequately, he should know his limitations and be able to choose the appropriate consultant. To look further ahead, a graduate must have sufficient knowledge of general medicine to make any subsequent specialization reasonably safe for his patients, and sufficient appreciation of the ideals and tradition of medicine to be able and ready to be entrusted with the future of our art, whatever new social conditions may arise.

The final aim asks for more than technical training. It is this wider development of the student's mind and character, bringing out the best that is in him, and giving him that 'way of life' as Osler[3] has called it that is understood by the word 'education'. Some of the requirements, like intelligence, integrity and personality, are not capable of being taught, and can only be ensured by selecting students who possess these qualities.[4] Another group of desirable traits arise as by-products of teaching, for example, habits of thought and patterns of behaviour. These tend to be unconsciously absorbed from one's fellows and teachers and formal lessons in these subjects would be, to say the least, unusual. Such attributes can best be ensured by selecting the right teachers.[4] Lastly, comes a vast mass of medical facts, that can and must be taught. Effective teaching will involve a right assessment of the limitations of both students and teaching methods. If our graduates lack any necessary quality that can be taught, we shall have to make deliberate provision for this in the curriculum. If it appears necessary—and unfortunately it often does—someone will have to explain to students entering the school, as Dr. Galloway used to explain to us, that 'a gentleman shaves every day—whether he needs to or not'. We need lectures in ethics, even if 'ethics' mean no more to us than good manners translated into the sphere of general practice, because what may come naturally to the son of a doctor, may not appear self-evident to the son of a merchant. On the other hand, lest these considerations grow too depressing, it is comforting to remember that education does not entirely depend on teachers—or the results would doubtless be worse than they are. We who teach can echo the words of the Indian *guru* who, as he sends his young student away, reminds him that only one quarter of education comes from one's teacher. The remainder must come from oneself, one's fellows and from life.

II. THE TASK

1. *Curricula.* How we are to teach will depend on what we regard as necessary to the student's education. Formal teaching will probably continue to be confined to straightforward vocational training, as indicated in the curriculum.[5] In view of the rapidly expanding frontiers of medicine, alteration of existing syllabuses to make

* A lecture given to the Medical School Science Society, University of the Witwatersrand, Johannesburg

room for fresh inclusions should be regarded as inevitable. Fairly widespread deletion will soon become necessary if more efficient teaching methods are not introduced, even though most lecturers regard the time allocated to their subject as 'hopelessly inadequate'. Some, like the White Knight in *Alice Through the Looking-glass*, cling to non-essentials on the ground that these may come in useful one day. Others uphold sections of their curriculum on the strength of some abstract educational value. We can afford neither of these luxuries, if they cause us to stint subjects having a direct bearing on medicine. The detailed fermentation reactions of bacteria, or the times of appearance of ossification centres are glaring examples of facts that are never required in an emergency other than those of the second and third professional examinations—and are more reliably kept on a wall chart (which is the usual practice among expert bacteriologists and radiologists) than in the untidy recesses of some mental kitchen-midden. While advances in physical chemistry and the newer knowledge of the isotopes are clamouring for admission, we must prepare to sacrifice long-cherished detail for the sake of other facts more fundamental to the understanding of a new field of knowledge.

Change is particularly necessary in the first or pre-medical year. Many have upheld the principle that this year should not be related to the subsequent needs of the curriculum.[1, 5] I cannot understand this attitude. It requires so little modification of the subjects to introduce that flavour of medical interest that is needed to turn an unwilling and rebellious first-year student into one eager to grasp the principles of these basic subjects, that I cannot believe that these subjects will lose anything of their purely scientific or cultural value if this interest were catered for. The main difficulty seems to lie in the fact that these premedical courses are arranged by laymen—to whom for example the tests for purity in chloroform and ether appear contributions of tremendous importance to medical students, instead of being technical procedures for manufacturing chemists. Studies in heredity tend to stop at the fruit fly and the bean plant, when only a few more lectures are needed to bring the student on to the fascinating problems of animal and human genetics. The practical application of these sciences should be dealt with by medically-trained lecturers, for it is not difficult for the student to detect when the lecturer is unfamiliar with his subject. There is a convincing ring in the voice of a man who has seen haemophilia in the wards, and discussed the problems of its transmission with the affected family, that no amount of detached perusal of the literature could produce. Systematic botany is better endured when it ends in the consideration of the medicinal and poisonous plants of South Africa. It would be to the country's benefit also if the major problems of crop raising and soil erosion could be explained to those who, in health centres and country practices, will certainly be important sources of scientific information. Another surprising evidence of myopia is seen in the zoology course, where the comparative osteology course culminates in the study of the dog skeleton instead of that of man. As an example of a mammal, man has an equal claim, but in adding interest, and in lending significance to all previous studies, there can be no comparison between the two. Furthermore, the study of the human skeleton would be invaluable as a preparation for dissection of the human body. At present the most well-intentioned of students needs considerable faith if he is to believe that every part of his curriculum is significant: this task would be easier if the planners of the course took into account the aspirations and natural inclinations of those for whom it is designed.

If unnecessary repetition were avoided, pruning might not be necessary for some time to come. Some students for example encounter the blood groups each year, since they can appear successively as part of genetics, physiology, immunology, surgery, forensic medicine and clinical pathology. This unnecessary repetition could be prevented by planning each six-year course as a whole, and clearly allocating the responsibility for teaching important sections. Copies of this plan should be circulated so that all teachers would have a detailed record of the past experience of each class, and could comment on what had been remembered and what had been forgotten. Some system of long term assessment of results is necessary if the succession of educational experiments that comprise a medical course are to be used profitably. A 'follow-up' is as essential in teaching as it is in therapeutics. Subsequent teachers could also avoid unintentional duplications though in practice some form of revision will always be necessary, as students frequently profess ignorance of much of the previous year's teaching. (This fact is often forgotten by the clinician, who, being himself secure from similar surveillance, and staggered at the ignorance of his students, occasionally is tempted to wonder how the professor of anatomy or physiology could have the effrontery to accept his salary!) A final advantage of such an organization of the course would be its effect on the student, who would hereby realize the unity of the syllabus and the thought that has gone into its design—and so might be spared the frequent and vain query, 'Do I really need to learn this?'

As regards the content of different courses, it is still necessary to curb the academic enthusiasm of the expert, to whom all facts are equally important. Factual matter must be selected for the product we aim at, and post-graduate detail may well be omitted! This should be done inconspicuously and not arbitrarily, if the undergraduate of to-day is to regard himself as the postgraduate of tomorrow. He has a right to learn everything: it is only to save his time that we steer him into what we consider more significant directions. Happy is the lecturer who has postgraduate students in addition, to act as a safety valve for his enthusiasm, as well as a stimulus to make him master of his subject. Nothing but undergraduate teaching makes a dull lecturer.

2. *'Subjects' and Examinations.* Any attempt to subdivide the study of man into subject-tight compartments must be fundamentally artificial since man, the object of our studies, cannot be broken down into a series of component relationships and functions without destroying the unity which makes him a living organism. Some,[6] recognizing this, have advocated the teaching of medicine throughout all the years of study, in a vertical manner, all subjects being added to by the teachers of subsequent years. The difficulties of this approach when staff and

students are multiplied make me feel that the 'horizontal' method of teaching one group of subjects before going on to the next is preferable, the defects in this system being remedied by vertical co-operation between different departments. The aim, therefore, should be that of laying definite foundations in each subject and testing these by adequate examination. My own experience of vertical extension lectures in subjects subsequent to the examination is that the attendance at these lectures is poor—and who will blame them if students who feel insecure concentrate on those subjects which lie ahead of them? The power of the examination among our students is so great that it is folly to disregard it. The examination is part of education, and is usually a much gentler experience than those post-graduate life holds in store. Courses which do not end in examinations are not attended by the majority of students, at any rate, in Johannesburg. Even an attendance register, if required by a gullible administration, leads to no obvious improvement in the attendance, however many signatures attest the contrary.

On the subject of examinations, it may suffice to say that they should be as much an educational experience for the teacher as for the student, autopsy being as valuable in education as in clinical medicine. High failure rates need not be viewed by the teacher with the complacent satisfaction that his is a difficult subject. Assuming that the intellectual equipment of the student can meet the task—and selection ought to have ensured that this is so—there should be only three explanations for a high failure rate:

1. The students have worked too little or ineffectually.
2. The teachers are incompetent.
3. The examiners have been over-strict or unjust.

Each of these can be corrected or, at least, improved. Students generally spend more than the fair amount of time on subjects reputed to have a high casualty rate. Most can be accused only of spending this time unprofitably—which itself reflects on their teachers. The remaining possibilities are matters for university action. There is a fourth situation possible, viz., that the number of passes was limited on some grounds other than ability of the candidates. If this is done without the knowledge of the candidates or their guardians prior to enrolment, the action can well be regarded as dishonest. If, on the other hand, the student knows that the number of passes is limited, this can lead to a cut-throat competition, utterly foreign to the ideal of a university. The competition of an entrance examination, or of one run by an independent body, is a different matter from that of accepting a student's fees for tuition supposed to fit him for an examination, which proceeds to judge him on other grounds than those of grasp of the subject.

These considerations suggest that the dean of the faculty ought to scrutinize the failure list as well as the pass list and investigate any deficiencies. This will probably require a full-time dean with access to much better individual records than the results of April and June class tests—which in too many cases are the only facts university departments possess on the personalities entrusted to them.

3. *The Need for Wider Education.* Besides the acquisition of the facts of medicine, the student needs a grounding in its theoretical basis,[7] which will give 'that bent of mind which is the all-important factor in education'.[8] He should learn in passing the history of discovery and the common pitfalls of reasoning. If clinical research is to prosper in our country, the place of controlled experiment and statistical analysis must be appreciated, and room for these subjects should be made in the curriculum, not as a formal course in experimental method, but as part of some other course, e.g. in pharmacology.[1, 7] The number of final-year students who cannot distinguish fact from theory demonstrates that it is possible to spend six years at a university without acquiring that grasp of principles which is one of the marks of an educated person. In particular it is necessary for the student to learn to be suspicious of theory in medical subjects, where theories are usually no more than first-order hypotheses. As Pickering[9] has pointed out, facts are the only authority in therapeutics; by fact one does not mean that unreliable witness, 'experience', but valid demonstration. The recent alteration in our treatment of shock is particularly illuminating in this regard. A few years ago the peripheral vasoconstriction of shock was regarded as an example of disordered reaction, and the treatment included warmth, some actually advocating a battery of hotboxes to restore what was so obviously abnormal. Subsequently it became evident that this vasoconstriction might equally well be regarded as a compensatory phenomenon, and excessive heating of the patient was found to be positively harmful. The theory itself does not matter, but the recovery rate does. This is another example of the fallacy that the abnormal patient is necessarily improved by correcting any one of his abnormalities, when treatment tends to be directed at the symptom, sign or laboratory report rather than at the sick person. Given a grasp of the principles of sound medical method, a student is better fitted to encounter unfamiliar diseases than if he had learnt all about them and remembered this, parrot-fashion, during the few weeks of the final examinations.

For those who think that the function of the university is performed when the vocational training has been completed, the words of Bruce Truscot in *Red Brick University*[10] may be worth quoting: 'I can see nothing inconsistent with the nature of a university in the inclusion in the curriculum of frankly vocational teaching, *provided this be recognized as an addition to the university's essential work, and not claimed as part of it.*' (Italics not in original.) According to this judgment, and it has the support of many serious teachers, the work of the university may not have started, though the student may have passed his final professional examinations. This needs to be remembered especially by younger schools.

Throughout the course, therefore, after the opportunity for vocational training has been provided, the aim of the faculty should be to produce a cultured person in the widest sense, acquainted with the world of values and enjoying that 'habitual vision of greatness' which is necessary to all education.[11] The association of a medical school with the university has been examined,

and approved,[7] but by many students and teachers this association can be completely ignored during the period between the first-year examination and the graduation ceremony. Yet it is only insofar as a medical man has an appreciation of his place in society and its history that he is able to play a more conscious part in his future than any other technician. Our graduate needs to feel part of his inheritance, one with Osler and Hunter, and ready to serve posterity as he has been served by his own predecessors. This attitude is harder to achieve in a medically-new country than in those countries where the medical schools and hospitals are already made famous by virtue of the great men they have nursed, men whose portraits look down on the impressionable young student in dining hall and lecture theatre. This must have an effect on his attitude. As one slightly snobbish product of one of these schools observed to me: 'Your teachers read the textbooks; my teachers wrote them'. This criticism is not entirely unjust, and the challenge has already been accepted, but until we have had several generations of great medical men to our credit, our schools will lack the stimulus of tradition and should seek to compensate for this.

The student must also understand present trends from contact with teachers who welcome him as a potential colleague, not as an inferior being. Thus is bred the assurance which comes from the knowledge that his standards compare with those of other countries. He who comes as an intellectual hanger-on should leave with the capacity for self-propulsion, recognizing his own aptitudes, eager to develop them, capable of finding facts for himself, and prepared to transmit his discoveries to his colleagues. Only such men will be ready for the isolation of many South African practices.

III. THE TEACHING PROCESSES

If this task is to be accomplished, we shall need to give much more thought to the process of teaching. Our teaching methods must remain those of the practical class, the tutorial and the lecture, each branch of knowledge being dealt with in all of these ways, if possible, for students differ in their preferred method of learning. Some are visual learners, some auditory, and others learn only by doing. All are helped by having facts presented by many separate routes, so that each new landmark can be viewed from many angles. As the first Cohen Report[1] remarks: 'Diversity of attack increases the chance of apprehending truth'. What disappointments and disillusion lie behind that reference to 'the chance of apprehending truth' only a fellow-teacher can understand!

1. *Practicals.* Practical experience remains fundamental to the teaching of medicine, not only as a means of acquiring the necessary skills, but as the most valuable route for learning, since it brings the student to the source of knowledge. To demonstrate the essential nature of practical experience one need only consider how arid an anatomy course would be without dissection, and yet there are courses where practical work is almost entirely lacking, where bored classes sit through dreary lectures on matters outside their experience. It may be taken as axiomatic that lasting interest demands practical experience. If the attitude of the profession towards psychiatry or preventive medicine needs improvement, one might well ask what practical experience was provided in the teaching of these subjects. The remedy will not lie in more lectures, or in special lectures to first years. It is now more than fifty years since Sir Michael Foster demonstrated the solution in teaching physiology at Cambridge by developing the practical side, but the lesson has been poorly understood.

Too seldom employed at present are the secondary methods of demonstration, educational film and individual assignment. The last method, well known to educationalists as the Dalton plan, is almost completely ignored in undergraduate teaching, yet there are few more valuable experiences than for the student to feel he has become master of at least one subject, to know how to handle its literature, and to be able to weigh up and to present the relative significance of facts.[6]

2. *Lectures.* One can be thankful that at this school we have escaped a tradition of dictated lectures, so that there is no need to comment on this ancient competitor of the printing press, except to remark that it is unworthy of a university. Nevertheless, good lectures are rarer than they might be, possibly because it is not sufficiently realized that good lectures, like good plays, demand preparation and rehearsal, besides able performers. I do not believe that lectures can ever be dispensed with without loss, as no writing can compete with the vividness of personal communication, the force of inflection, and the relief of occasional spontaneous flashes of humour. Even where systematic lectures are unnecessary, some lectures are desirable to emphasize the landmarks of the subject and to remove some of its strangeness for the beginner. The very familiarity of the lecturer with an otherwise frightening terminology infects the student with a confidence that is not easily transmitted by any other means.

The need for systematic lectures depends on the nature of the subject to be taught and the amount of time available for practical experience. Thus, in this school, Gross Anatomy is taught with a minimum of lectures, whereas in the same department it has been found that systematic lectures in Embryology cannot be dispensed with.

Judging from the proportion of poor lectures, one might gather that such principles are not widely recognized. Too often the lecturer drones away, sometimes inaudibly, to an inattentive skeleton class longing for escape from a stifling theatre. This represents an ineffective use of the lecturer and is not remedied by instituting an attendance register. It seems wiser to investigate other factors like lecturing ability, overcrowding of the time-table, adequacy of examination and design of the theatre. Summer in South Africa makes special demands on the ventilation, which with the illumination and acoustics directly affects the power of concentration. The need to make attendance at lectures compulsory should be regarded as a sign of grave disease in the teaching system, especially since students can read all that they are obliged to know, and lectures are intended to lighten the task of selection. Where the lecturer fails to carry out his duties efficiently, a student should have the right to indicate this by the mute protest of his absence, though a more vocal complaint would

obviously be preferable. Compulsory lectures, it has been well said, maintain both bad students and bad lecturers. (Compulsory practical work is entirely different as this experience is irreplaceable.) This does not imply that I think it immaterial whether students attend or not—on the contrary—but compulsion is a poor way of procuring attendance, and cannot ensure attention. Once the quality of teaching is improved, the matter of attendance can be reconsidered in better perspective.

3. *Individual Tuition.* By the term tutorial is meant communication between teacher and individual student, preferably alone, but also occurring as an incident in teaching a larger group, which is the closest we get to the undergraduate tutorial in our school. What usually goes by the name of tutorial is no more than an informal lecture. The provision of individual teaching needs special emphasis, however, and it is in this direction that the greatest reforms in our teaching methods are needed. It is common experience that announcements made to vast lecture audiences fall on many deaf ears. Even printed instructions are seldom accurately read! Fundamental individual problems are rarely reached when teaching a group of students, and are generally unsuspected by the teacher, though such problems may form a not insignificant educational barrier. These personal problems often call for repeated private interviews before they are so much as revealed. In the same way the teaching of scientific method, logical thinking and similar mental disciplines requires a brilliant teacher if it is to occur during mass-production. It is by expansion of the opportunity for individual contact with the staff that our hope of improvement lies, rather than the shuffling of topics that represents the usual 'reform' in the curriculum.

IV. THOSE WHO TEACH

1. *Their Lack of Training.* It has been insufficiently appreciated in the past that the teacher is more important than the subject-matter, though in recent years many have laid stress on this.[5, 7, 12, 13] At present it might seem that the teaching of medicine is a by-product of the school and not the main objective, for teaching is carried out by those who happen to find themselves there, who have not been trained in education nor benefited by informed criticism of their teaching methods. From my own experience, I gather that lecturers are appointed without any attempt being made to ascertain whether they can transmit instruction or whether their method of presentation could be improved. It is no wonder that one of our past lecturers could dismiss his colleagues in the caustic generalization 'the mentally warped, the physically warped, and those that just drift in'. There is a grain of truth in this cutting remark, though it should be remembered that the majority of medical teachers are there because they like the academic life. The value of his criticism is that it draws attention to the remarkable fact that medical education has not been regarded as a profession requiring special training and selection of candidates. Apparently anyone can teach!

This assumption is not supported by the Brebner report, which considers it necessary to observe: 'Teachers of medical students, we insist, should in the first instance be good teachers.'[14] There can be little cause for complacency when it becomes necessary to reiterate what ought to be self-evident, but it seems that educational principles are held in so little esteem that medical teachers are required to know nothing of them, and must rely on native wit where vast experience exists to help them. Native wit has served us well, but, coupled with training, would serve us better. The development of medical teaching as a profession requires serious consideration. This need not mean the year's training that a school teacher requires in addition to a university degree before he gets the Higher Diploma in Education, though it might well approach this. At the very least, the lecturer should be taught how to present a subject, to speak to the class instead of to the blackboard, and to write legibly with chalk. If such a move is to come, it must begin in the university itself, whose function it is to breed the future generations of its teachers. One of the first steps in this direction might be the purchase of a wire recorder, to make it possible for lecturers to enjoy the privilege of hearing their own lectures in private. Appointment to the permanent staff could be made conditional on attendance at a part-time course in educational methods, arranged by the university, during which lecturers would give specimen lectures for analysis and criticism.

2. *The Good Teacher.* The dangerous nature of the assumption that any doctor is fit to teach medicine is apparent if one considers the qualities of a good teacher. First, he should have the didactic streak in his nature that will make him want to teach, with an infectious enthusiasm for the subject and friendly encouragement for the student, based on underlying respect for the human spirit. Obviously he should be a master of his subject, and familiar with recent developments in it. Some assume that this is possible only if the teacher himself is doing research, which leads them on to the next fallacy, that an able research worker is *ipso facto* an able teacher. One must be very remote from practical teaching to accept this. What is required is acquaintanceship with research. Undoubtedly this is best obtained by doing research oneself, but there are other ways, like reading and meeting other scientific workers. The quickest way of becoming acquainted with recent trends is by attending international congresses, and here South Africans are severely handicapped in comparison with our European colleagues. Our ideal teacher thus requires time—time to read, time to think, to converse and to travel—time for which no immediate return can be guaranteed, and in which carping economy may detect no profit. As one who has tried both, I can say that whereas twelve hours of teaching per week leaves the lecturer stimulated by contact with students, twice this amount will leave him too exhausted to do anything but teach, and that badly.

To present his subject in its proper perspective as part of the curriculum, the teacher must acquaint himself with the whole course, and, where necessary, re-attend some of the other courses himself, for their better integration. It is foolish to expect from the student attitudes that are not held by his teachers. There is little sense in expecting the majority of students to value statistics or social medicine if teachers whose opinions they respect do not

appreciate the need for such studies. Let the advocates of these subjects explain and justify them to their colleagues, and then listen to their frank comments before being turned loose on unprotesting victims.

3. *The Staff Common-room.* The need for such courses will be lessened if each teacher can meet his colleagues informally. At this medical school the opportunity for contact with the staffs of other departments is zero—except for those few members who, in the interests of convenience rather than integration, lunch together in the student's refectory. Experiments in the curriculum are seldom if ever discussed or explained to the lower stratum of teachers. Criticism, where it exists, is regarded apparently as a personal attack rather than a mark of assistance, and what criticism there is does not reach the places where it could do most good. Much of this difficulty could be resolved if a staff common-room were provided. As harmony and co-ordination are beyond price, such an innovation should not be delayed. The question is not whether an overburdened staff can afford to spend time in a common-room, but whether it can afford not to.

4. *Losses to the Profession.* One of the main difficulties in the way of these improvements has been the floating nature of the medical teaching population, for few stay the course. If such training is not to be wasted, then the profession of medical teaching must acquire a permanence that it lacks at present; and lacks, not because of insufficient interest on the part of the teachers, but because of the unattractiveness of what the profession offers in terms of time for research and sufficient salary and pension. (The British University Pension Scheme might bear examination in this latter respect.) The question of ultimate retirement is especially important in the case of preclinical teachers! On leaving the university, clinical teachers can always return to their practices with reputations enhanced as consultants, but what employment awaits the retiring anthropologist or cytologist apart from the book that he never found time to write during his academic career? The professors may possibly survive, but this is small comfort, for there can never be enough chairs to go round, unless the majority of teachers give up teaching, as tends to happen at present. It will require many more and better paid readerships and senior lectureships to keep medical teachers teaching, and much more time and facilities for research to put the jam on the bread and butter of routine. A delightful and witty commentary on these and similar university teaching problems may be found in Jacques Barzun's *We Who Teach* [15]—a book which with Truscot's *Red Brick University* ought to be compulsory reading for all involved in university administration. It should be borne in mind that any improvement in the quality of the teaching would make it possible to reduce its quantity. With a less crowded curriculum, students could find it easier to think for themselves, and to reason with one another—a very necessary part of medical education and one which our present overburdened curriculum seems to have ignored.[6]

5. *The Obvious Conclusion.* I do not minimize the good that has gone out of the present haphazard system, for the people involved have mattered more than the efficiency of the organization. Many improvements and experiments have been carried out, and we owe a very great debt to the vision and persistence that has seen our school through its thirty years of life. All that this paper does is to emphasize the fact that if something is wanted, it must be provided. Medical education is the foundation of a health service—and therefore of the health of the nation—and should not be restricted by the resources of a small institution. It is the community that benefits if the quality of doctor improves: the community ought to pay for it. Most of the reforms suggested here will cost money. The Brebner report [14] has indicated one source of revenue on which we have a reasonable claim. American medical students pay 22.8% of the cost of their education, British students pay 23.2%, but our students of the Witwatersrand pay 45%. As long as this continues it is unlikely that our education can compete with that of overseas schools—not necessarily on the factual side, for we have external examiners to control this, but in producing that well-rounded, cultured personality which is the hall-mark of a university training in an honourable profession.

I wish to acknowledge the generosity of the Nuffield Foundation, which enabled me to visit certain English medical schools in 1949 and 1950, thus throwing into sharper relief the differences between their conditions and our own. It gives me special pleasure to mention my indebtedness to my past teachers in this school: in particular to Prof. W. H. Craib, whose teaching methods remain unequalled in my experience, both in originality and stimulation, and to Prof. R. A. Dart, who discussed educational problems with his students individually. The conclusions arrived at in this essay naturally remain my own responsibility.

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Echoes from the Past

ARCHIVES FOR A HISTORY OF MEDICINE IN SOUTH AFRICA

THE TROUBLES OF THE JOHANNESBURG HOSPITAL

The perennial troubles of the Johannesburg General Hospital are cropping up in new forms. The Medical Staff are complaining and with good reason, of the action of the Board in disregarding its recommendations with regard to the filling up of resident appointments and superseding the Medical Board in this regard by a sub-committee of the Board itself. The nurses are complaining of the Board having taken them to task somewhat severely for not actively co-operating in the work of street collections for the Samaritan Fund of the Hospital. They urge that it is a little too much to expect nurses whose duties, even under the Trades Union conditions of this hospital, are arduous enough, to dock their hours of rest by standing in the streets collecting. As we have said again and again, the vagaries of the Johannesburg Hospital Board and the Provincial Council are endless and exasperating.

[Extract from *Passing Events* in the *South African Medical Record*, 26 January 1924, page 37.]

* * * *

DOCTORS AND JUDGES

Mr. Justice Laurence, of Kimberley, albeit a shining legal luminary after his kind, seems scarcely possessed of that sense of the fitness of things, which should distinguish a judicial functionary. He has lately made an attack upon the members of our profession which is not only devoid of all basis of fact, but was so entirely uncalled for, that one can only assume that his Lordship was either actuated by some hypochondriac fit of spleen, or had determined to distinguish himself in the walk of the professional joker. Dr. W. Murphy appeared before his Lordship in a bankruptcy case. The London and South African Company endeavoured to make him insolvent, and the doctor opposed, alleging that his affairs were not in such a condition as to warrant sequestration. Apropos of this contention, Mr. Justice Laurence remarked 'that it was rather creditable to the applicant to come into Court and avoid insolvency, inasmuch as the general experience of that Court with regard to the members of the profession was that they seemed to be rather fond of being made insolvent than otherwise'.

Now we beg leave to characterise such loose talk as this as not only injudicious (and *injudicial*) but unjust in the highest degree, and we are quite certain that in protesting against it, we shall have with us, not merely the members of our own profession but the thinking public generally.

A judge is protected by his position from consequences which in any other sphere of life would visit the rash speaker somewhat heavily, but he should none the less remember that that very judicial position imposes upon him a higher moral responsibility, than belongs to the *profanum vulgus*.

The world attaches exceptional importance to the utterances of men whose professional training is supposed eminently to qualify them for guarded speech and to elevate them above the dictates of mere impulse. They are, above all others, credited with never speaking without due antecedent thought, and so their utterances, for weal or woe, tell very greatly with the community at large. And judges, unfortunately, do sometimes seem to forget judicial reserve.

In England recently, Sir Wilfred Lawson made a very happy hit when, after a judge had spoken of teetotallers as 'melancholy folk', he retaliated that the contemplation of the foolish things said by judges was enough to make anyone melancholy. And the mildest thing we can say about Judge Laurence is that he appears to speak first and think afterwards. A man is always treading on very dangerous ground when he attempts to attach any particular stigma to any body of men *as a class*. However perfectly the cap may fit individuals, it is seldom that it can with justice be adjusted to a whole profession or even to a majority thereof. In those rare cases in which a general imputation may be levied at a class, there is invariably some obvious external cause to be demonstrated which produces and explains some common characteristic. But no one can, with any show of justice, affirm that there is anything special in the training or surroundings of the medical profession to blunt the moral objections of an honest man to bankruptcy.

It is certainly not proved that the medical practitioners of South Africa have been more prone to easy surrender than the other classes of the community. On the contrary, we believe from our own knowledge of the patient and uncomplaining struggles of many of our confrères, that as a class they have upheld their financial honour more than the bulk of their fellows. And the profession is surrounded by many temptations to insolvency. Our incomes are scanty, and what is much more to the point extremely uncertain. A man who is making £800 this year, may without any fault of his own, drop down to £300 next.

Probably no class has to endure a more miserable state of financial uncertainty than ourselves. Then our incomes such as they are, come in on the 'feast and famine' principle, most irregularly. We have again a certain amount

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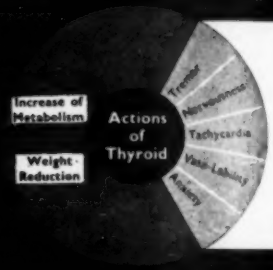

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To shrink inflamed mucosa and, by osmosis, establish full drainage from the middle ear.*
To eliminate pain and infection.

RESPONSE :
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REFERENCE :
*Reid, W. Ogilvy, Brit. Med. J. 1. (1946) 648.

CHRONALGICIN *in chronic Otitis Media*

RATIONALE :
To dissolve debris, deodorise, improve drainage and eliminate infection, at the same time to dry and harden the meatal skin.*

RESPONSE :
Improvement is noted early, but treatment may be necessary for some weeks before activity ceases or dry ear results.

REFERENCE :
*Reid, W. Ogilvy, Brit. Med. J. 1. (1946) 648.

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of appearance to keep up, which renders retrenchment extremely difficult, and we share with the parson the unenviable privilege of being looked upon as a fountain of universal benevolence. And further than this, it is obvious that the fluctuating character of our incomes is a standing temptation to the rash engaging in outside speculation. A village surgeon for instance is making £1,000 a year and can live on £600. He is easily induced to go in for land and building speculation for the sake of employing profitably the odd £400. But presently he offends some local big-wig, the hotel-keeper, auctioneer or law agent. A new doctor is officiously imported and our ideal £1,000 a year drops down to £500, on which the man can not perhaps live, let alone keep up engagements entered into under different conditions. But with all these disadvantages we utterly deny that medical men are marked by any special proneness to insolvency. Truly South African society in general has a wonderfully lax financial conscience, but medical men are rather exceptions to the rule than examples of it.

Judge Laurence may tell us that his remarks only apply to the faculty at Kimberley. Well, we have never hesitated to condemn in strong terms many of the practitioners of the old school of Kimberley as being by no means conspicuous ornaments to the profession. But one swallow does not make a summer and, moreover, Judge Laurence should remember that those who feel the shafts of his wit are the newer and more honourable generation of Kimberley practitioners. The few to whom they might have been fittingly applied have almost all left the Diamond Capital for pastures new. But his remarks, as they stand, will be read as general by the average observer and we should not be doing justice to our constituency did we not protest against them as insulting and unjust.

[*Editorial* from the *South African Medical Journal* of 10 August 1887, pp. 21–22.]

H. A. S.

PASSING EVENTS

We regret to record the death of Dr. O. O. Midgley.

* * * *

Medical practitioners are informed that a Benefit Society known as the N.A.C. Sick Fund, Claremont, Cape, has ceased to function as from 1 March 1952.

* * * *

The University of St. Andrews, Scotland, has invited Dr. Louis F. Freed, M.D., D.Phil., Lecturer on Medical Sociology at the University of Witwatersrand, to write a memoir of the late Prof. R. F. Alfred Hoernle, who was for more than 20 years Head of the Department of Philosophy at the University of Witwatersrand. Professor Hoernle was a foremost exponent of synoptic philosophy.

MEDICAL LIBRARY ACCESSIONS: CAPE TOWN

The list of latest accessions to the Medical Library, Medical School, Mowbray, C.P., for the period October–December 1951, is now ready and may be obtained on application to the Library.

CAPE TOWN PAEDIATRIC GROUP

On 31 March 1952 at 8.15 p.m. in the Lecture Theatre (4th Floor), Groote Schuur Hospital, Mr. J. H. Louw (recently returned from England) will speak on *Modern Trends in Paediatric Surgery*. All practitioners are welcome.

VIIIth INTERNATIONAL CONGRESS OF SURGERY: SPAIN

The next Congress will be held in Madrid from 19–24 May 1952. The following sections will meet separately: Anaesthesia, General Surgery, Vascular Surgery, Thoracic Surgery, Pathology, Radiology, Otorhinolaryngology, Ophthalmology, Neuro-Surgery, Traumatology and Orthopaedics, Obstetrics and Gynaecology and Urology.

Scientific communications including a résumé of 150 words must be in the hands of the Secretary before 15 April. No paper may take longer than 15 minutes to read.

Those interested in this Congress should communicate with the Secretary, Instituto Nacional de Medicina Y Seguridad Del Trabajo, Facultad de Medicina, Pabellón n.º 8-Ciudad Universitaria, Madrid.

REVIEWS OF BOOKS

OBSTETRICS

Principles and Practice of Obstetrics. By J. P. Greenhill, M.D. Tenth Edition. (Pp. 1,020 + ix, with 864 figures, 194 in colour. £5 6s. 3d.) Philadelphia and London: W. B. Saunders Company. 1951.

Contents: Part I. The Physiology of Reproduction, Pregnancy, Labor and the Puerperium. 1. Physiology and Conduct of Pregnancy. 2. Physiology and Conduct of Labor. 3. Physiology and Conduct of the Puerperium. *Part II.* The Pathology of Pregnancy, Labor and the Puerperium. 4. The Pathology of Pregnancy. 5. Pathology of Labor. 6. Pathology of the Puerperium. 7. Operative Obstetrics. Index.

DeLee's remarkable book has been described, without exaggeration, as 'a monumental contribution to obstetrical teaching'.

The new tenth edition has been rewritten almost entirely by Dr. J. P. Greenhill, so much so that not one page is the same as it was in the previous edition. Many new authorities have co-operated in the venture. This excellent book treats so fundamentally of the physiological principles underlying the sound practice of obstetrics that it becomes virtually a reference work for physiologists as well as accoucheurs.

The illustrations are profuse, many of them are in excellent colour, and the volume is a model of book-making, for which the publishers deserve congratulation.

It is interesting to note that German measles contracted by a mother before the end of three months of pregnancy is regarded as an indication for therapeutic abortion, 'because most of the forthcoming babies will have congenital defects, particularly eye defects, heart diseases, dental abnormalities and deaf-mutism'. It is valuable to have such a positive statement about such a difficult problem from so authoritative an author, particularly as the legal position leaves much to be desired. Amongst the few very restricted indications which are recognized by Dr. Greenhill for therapeutic abortion, he includes erythroblastosis, a problem which is very complicated, if the father is homozygous, by the possibilities of artificial insemination.

This excellent volume is a handsome addition to the medical library.

LEPROSY

Leprosy. By Sir Leonard Rogers, *K.C.S.I., C.I.E.*, M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (Retired) and Ernest Muir, *C.M.G., C.I.E.*, M.D., F.R.C.S. (Edin.). Addendum to the Third Edition. (Pp. 16. 2s. 6d.) Bristol: John Wright & Sons, Limited. October 1951.

The third edition of *Leprosy* was published in 1945 and such revolutionary changes have taken place in the treatment of

leprosy that this Addendum was very necessary. The subject has been handled in the masterly manner that we have come to expect in publications by Rogers and Muir.

Naturally the sulphones occupy the largest portion of the publication. The proprietary preparations *Promin, Diasone* and *Sulphetrone* are discussed. These are generally accepted as acting by virtue of the degree to which they are degraded to *diamino-diphenyl-sulphone* (generally called D.D.S.).

The modern practice is to administer D.D.S. as the simple chemical substance. As they state, 'in small doses it is at least as effective and no more toxic than its derivatives'. This is generally accepted amongst leprologists.

The action of the sulphones is described as a three-stage affair. First, a rapid healing of cutaneous and mucous ulcerations; second, a somewhat slower resolution and disappearance of external manifestations; and thirdly, a very slow but steady disappearance of the bacilli.

The toxic effects as manifested by nausea, dermatitis, glandular fever, sulphone psychosis, lepra reaction and anaemia are discussed, but a strange omission is the sulphone-induced peripheral neuritis. This, in South Africa, is a serious complication.

A comment is given on the necessity of finding methods of hastening the elimination of bacilli which have probably been killed by the sulphones, but which lie unmolested in the patient's tissues. This undoubtedly is the big task which lies ahead of all leprologists.

THE FELLOWSHIP EXAMINATIONS

Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh: 1947–1951. (Pp. 50. 5s. 6d.) Edinburgh: E. & S. Livingstone Limited. 1951.

Contents: *Part I.* Single Licence Examination: 1. Surgery and Surgical Anatomy.
Part II. Fellowship Examination—Primary: 2. Anatomy. 3. Applied Physiology and the Principles of Pathology.
Part III. Fellowship Examinations: 4. Surgery.
Part IV. Optional Subjects: 5. Dental Surgery. 6. Gynaecology. 7. Laryngology, Otology and Rhinology. 8. Obstetrics. 9. Obstetrics and Gynaecology. 10. Ophthalmology. 11. Ophthalmic Medicine and Surgery. 12. Surgery and Surgical Anatomy. 13. Surgical Pathology and Operative Surgery.

This list of questions set for the Fellowship Examinations at the Royal College of Surgeons, Edinburgh, during the period 1947–1951, will be most useful to post-graduate students in the course of preparing themselves for their examinations.

The publishers have performed a useful service in making these examination questions so readily available.

SURGICAL CARE

Surgical Care. A Practical Physiologic Guide. By Robert Elman, M.D., F.A.C.S. (Pp. 586 + xviii, with illustrations, some in colour.) New York: Appleton Century Crofts, Inc. 1951.

Contents: Preface. Comments on Biochemical Measurements. 1. Introduction. 2. Systemic Reaction to Trauma. 3. Psychogenic Factors in Surgery. 4. Nutrition in Surgery. 5. Physical Factors in Surgery. 6. Basic Preoperative Care. 7. Anesthesia. 8. Inhalation Therapy and Resuscitation. 9. Routine Postoperative Care. 10. Chemotherapy in Surgery. 11. Postoperative Pain. 12. Pulmonary Complications. 13. Thromboembolic Disease. 14. Postoperative Renal Dysfunction. 15. Surgical Shock. 16. Wound Complications. 17. Abdominal Complications. 18. Postoperative Fever. 19. Thermal Burns. Author Index. Subject Index.

This book, taken all in all, is excellent. It is easy and enjoyable to read; yet, for the most part, it is a mine of information of the principles that guide the care of the surgical patient before and after operation. Its interest never flags, its scope is wide and its approach to many familiar problems and situations, sound. At all times, however complicated the therapeutic procedures which are in train, the author keeps the restoration of the patient to mental and physical health and happiness as a guiding consideration.

At the end of every chapter is a bibliography drawn from American, British and other sources. An author index, as well as a detailed subject index, enhances the usefulness of this book.

Subsequent editions should eliminate minor, infrequent spelling errors and grammatical incorrectness, and the more serious faults of tautology and occasional literary pretentiousness.

In the context and its approach, and the quality and quantity of the information offered, this book should appeal greatly—but in inverse ratio—to students and practising surgeons.

CORTISONE AND ACTH: UNTOWARD REACTIONS

Untoward Reactions of Cortisone and ACTH. By V. J. Derbes, M.D., F.A.C.P. and Thomas E. Wess, M.D. (Pp. 51. 8s. 6d.) Oxford: Blackwell Scientific Publications. 1951.

Contents: 1. Introduction. 2. Physiology. 3. Glands of Internal Secretion. 4. Electrolytes. 5. Cardiovascular System. 6. Infections. 7. Musculoskeletal System. 8. Changes in Skin, Subcutaneous Tissues and Mucous Membranes. 9. Central Nervous System. 10. Gastro-Intestinal Tract. 11. Treatment. References.

The introduction of Cortisone and ACTH marks the beginning of a new therapeutic age and a proper understanding of the employment of these hormones certainly requires an appreciation of the physiological background involved. This alone will make possible a rational understanding of the multiple ways in which these hormones can affect almost every system of the body, producing reactions not desirable from the limited point of view of a particular treatment. The authors have called these additional effects of the hormones 'Untoward Reactions'.

Whatever limitations this little monograph may have, it is certainly one which should be read carefully by every physician or surgeon who may have occasion to employ these potent therapeutic weapons.

In some ways the authors have been uncritical of these 'untoward reactions'. They suggest that basophil adenomata may occur in the pituitary following ACTH therapy. This reflects an inadequate appreciation of the fact that 'silent' basophil adenomata may occur in this gland.

In the same way there is a somewhat uncritical report (p. 20) of increased blood clots in the menstrual flow following Cortisone. It is common knowledge that this feature may occur from time to time quite spontaneously without Cortisone.

The monograph draws attention to important clinical problems which arise during the course of treatment. The most important chapter and also the best written is probably the one dealing with *Infections*. It is obviously easy to overlook even a generalized peritonitis, because the temperature, the pulse rate and abdominal wall resistance may be normal while the patient is being treated with ACTH. A case of agranulocytosis developed a white cell count of 25,400 per c.mm. after Cortisone. The confusion for the clinician may therefore be great. The interesting suggestion is made that the simulated acute abdomen together with the leucocytosis may be due to potassium depletion.

There is a very sound discussion of the problem of administering Cortisone in the presence of tuberculosis and of peptic ulcers.

An interesting and very practical index of control is reported in the case of one patient who noted that he could determine the maintenance dose of Cortisone required for his rheumatoid arthritis by his dandruff.

This is a very practical application of the effect of this hormone on the skin.

As this monograph is likely to see many reprintings as well as to grow steadily in size, it is necessary to draw attention to some errors of omission as well as commission:—

i. There should certainly be an index in the next edition.

ii. On p. 4, line 6, 'cromophobe' should read 'chromophobe'.

iii. On p. 16, line 12, 'phorpholifidi' is obviously meant to be 'phospholipids'.

iv. On p. 7, one of the 'N' hormones is called Andrenosterone, whereas on p. 8, line 17, it is referred to as Adrenosterone.

v. In the discussion of wound healing the paradox of the successful use of these hormones in the treatment of burns is omitted.

vi. On p. 20, the authors refer to severe 'vascular renal lesions' when they obviously mean 'renal vascular lesions'. This is more than a prose inelegancy.

vii. Much would be gained by the elimination of contradictory reports from animal experiments and the restriction for the greater part to the accounts of effects reliably observed in man.

SURGICAL TECHNIQUE

Surgical Technique. By Stephen Power, M.S., F.R.C.S. (Pp. 380 + x, with 198 figures. 30s.) London: William Heinemann (Medical Books) Limited. 1951.

Contents: 1. General Considerations. 2. Position on the Table. 3. The Approach. 4. Haemostasis. 5. The Alimentary Canal. 6. Ducts and Fistulae. 7. Drains. 8. Closing the Wound. 9. Wound Infection. 10. Orthopaedic Surgery. 11. Wound Infection. 12. Amputation. 13. Tendons. 14. Nerves. 15. Vessels. 16. Burns. 17. Plastic Surgery. 18. Surgery of Malignancy. 19. Surgery of Children. 20. Tactics. 21. The Assistant. 22. Shock. 23. Anaesthetic Emergencies. 24. Local Anaesthesia. 25. Plaster of Paris. 26. Knots. 27. Sutures and Stitches. 28. Antiseptic Action. 29. Sterilising and Disinfecting. Index.

Very many excellent books have been written on operative surgery, dealing adequately and in great detail with the techniques of modern surgery. Few books, however, give accounts of the fundamental principles of surgical technique. The young surgeon finds himself with a vast theoretical knowledge, but is poorly equipped in the practical field of surgery.

This book serves admirably as an introduction to operative surgery and should be studied before the beginner delves into advanced techniques. The book has been written in a simple style, accompanied by sufficient and clear diagrams. The chapters on suturing of wounds, drainage, tying of knots and assisting at operations are good. Mention, however, should have been made of thoracic surgery. On the whole the surgeon will find this a useful book.

THE SPECIALTIES IN GENERAL PRACTICE

The Specialties in General Practice. Edited by Russell L. Cecil, M.D. (Pp. 818 + xvi, with illustrations. £6 3s. 3d.) Philadelphia and London: W. B. Saunders Company. 1951.

Contents: 1. Minor Surgery. 2. Orthopaedic Surgery. 3. Fractures and Dislocations. 4. Urology. 5. Diseases of the Anus, Rectum and Colon. 9. Pharmacology of the Central Nervous System—II. Anaesthetics. 10. Diseases of the Nose and Throat. 11. Diseases of the Larynx, Bronchi and Esophagus. 12. Otology. 13. Dermatology and Syphilology. 14. Psychiatry. Index.

This is a book written primarily and specifically for the general practitioner by a number of people obviously expert in their particular fields; yet the subject matter is presented in such a manner that a fourth-year medical student could understand and enjoy every paragraph.

It is an attempt to familiarize the G.P. with almost every clinical entity pertaining to each of the surgical specialties; to assist him in the diagnosis of these conditions; to indicate where specialist assistance is required and briefly what this will entail; to assist him with the pre- and post-operative care of these patients; and, most important of all, to make him an expert in the use of various diagnostic instruments, and in the treatment of all those numerous entities with which he is called upon to deal.

Chapter 1 covers almost every type of minor surgery he is likely to meet in practice, from a splinter under the finger nail to a thoracentesis. Each condition is presented in considerable detail, is well illustrated, and is punctuated by numerous and excellent practical hints regarding diagnosis, treatment and technique.

The succeeding chapters deal with most of the surgical specialties; in addition there is a good chapter on dermatology and a very useful one on psychiatry as it affects the general practitioner. Here a considerable part of the section is devoted to such subjects as the doctor-patient relationship, the management of neurotic patients, the management of patients with fatal or chronic diseases. An attempt is made to answer the numerous domestic problems which are brought constantly to the general practitioner.

Orthopaedics and fractures are well presented, and included here is an excellent table summarizing the whole subject of fractures, possible complications, methods of reduction, mobilization and convalescent requirements. The section on *Diseases of the Anus, Rectum and Colon* is unfortunately spoilt by a very vague description of the anatomy of the anal canal, so that the classification and description of *fistula-in-ano* is rather confusing. Here, too, the surgery of fissure and haemorrhoids differs from that of the British school where primary suture is not practised.

All in all, the book is an excellent reference volume for the general practitioner, and the Editor must be congratulated on a singularly good production.

CLARK'S APPLIED PHARMACOLOGY

Clark's Applied Pharmacology. Revised by Andrew Wilson, M.D., Ph.D., F.R.F.P.S., and H. O. Schild, M.D., Ph.D., D.Sc. (Pp. 691 + x, with 120 illustrations. Eighth edition, 37s. 6d.) London: J. & A. Churchill Limited. 1952.

Contents: 1. General Principles of Drug Action. 2. Administration of Drugs. 3. Pharmacology of the Autonomic Nervous System. 4. Products of Protein Breakdown and Immunity Reactions. 5. Pharmacology of the Endocrine Glands. 6. The Vitamins. 7. Inorganic Metabolism. 8. Pharamacology of the Central Nervous System—I. Functions of the C.N.S. 9. Pharmacology of the Central Nervous System—II. Anaesthetics. 10. Pharmacology of the Central Nervous System—III. Hypnotics and Depressants of Motor Functions. 11. Pharmacology of the Central Nervous System—IV. Alcohol. 12. Pharmacology of the Central Nervous System—V. Stimulant Drugs. 13. Pharmacology of the Central Nervous System—VI. Analgesics. 14. Pharmacology of Temperature Regulation. 15. Local Anaesthetics. 16. Pharmacology of the Circulation—I. The Heart. 17. Pharmacology of the Circulation—II. Blood Vessels. 18. Pharmacology of Respiration. 19. Pharmacology of the Lungs. 20. Pharmacology of the Alimentary Canal—I. The Stomach. 21. Pharmacology of the Alimentary Canal—II. The Intestine. 22. Pharmacology of the Haemopoietic System. 23. Pharmacology of the Kidneys. 24. Pharmacology of the Female Reproductive Organs. 25. Pharmacology of Infections—I. Sulphonamides. 26. Pharmacology of Infections—II. Antibiotics. 27. Pharmacology of Infections—III. Organic Arsenicals. 28. Pharmacology of Infections—IV. Malaria and Trypanosomiasis. 29. Pharmacology of Infections—V. Anthelminthics and Amoebicidal Drugs. 30. Disinfectants. 31. Pharmacology of the Skin. Index.

The previous edition of this book appeared in 1940. The present authors have completely revised and in some chapters have rewritten the subject matter; some new chapters have been added.

The principles and practice of pharmacology in relation to human disease are again presented in a most readable fashion and incorporate many of the advances of recent years. The connexion between pharmacology and therapeutics is clearly demonstrated, and emphasis is placed on the foundation of physiology and pathology. Medical students and practitioners will find this volume most useful for an understanding of the pharmacological basis of therapeutics.

The dosage of drugs is given in the metric system, which is now recommended universally. There are many points which require comment, of which a few may be mentioned. Cortisone can be given effectively by mouth. Liquid paraffin may be absorbed in small amounts after continued use. The use of antibiotics is preferred and is more rational for vulvovaginitis in children, since oestrogens may produce precocious changes. Progesterone, effective by mouth, is to be used with care in abortion; it has been shown to enhance uterine contractions in the human female. It is the carotid body chemoreceptors which are stimulated by drugs such as Nikethamide and by lack of oxygen or excess of carbon dioxide.

Those who are familiar with Clark's *Applied Pharmacology* will again be pleased with the volume, and new readers have a treat in store for them.

DRUG THERAPY: 1951

The 1951 Year Book of Drug Therapy (September 1950–August 1951). Edited by Harry Beckman, M.D. (Pp. 502, with illustrations. $5.00.) Chicago: The Year Book Publishers, Inc. 1951.

Contents: 1. Allergy. 2. Cardiovascular Diseases. 3. Dermatology. 4. Endocrinology. 5. Gastroenterology. 6. Hematology. 7. Internal Medicine. 8. Neuropsychiatry. 9. Obstetrics and Gynecology. 10. Ophthalmology. 11. Otorhinolaryngology. 12. Pediatrics. 13. Pulmonary Hemorrhage. 14. Roentgenology. 15. Surgical Specialties. 16. Venereal Diseases. Index.

In this issue of the *Year Book of Drug Therapy* journals appearing between September 1950 and August 1951 have been reviewed for the selection of the articles abstracted. Once again the rapid developments in the field of therapy are shown by the great variety of new drugs, but there are also reports on further investigations of relatively older drugs.

For those who do not subscribe to many journals, or have not got easy access to a library or the time to read original articles, this book (particularly if ordered in series annually) will prove of value. Even for those who read extensively, the volume is of use in providing abstracts from popular journals and also from journals that may not be ordered by our libraries.

Case histories, tables, graphs and illustrations are additional features of this well-produced book. It is impossible to give a full list of the drugs or diseases mentioned but amongst others such agents as ACTH, Cortisone, antihistaminics, antibiotics, Amphetamine, Antabus, BAL, ergot alkaloids, digitalis glycosides, analgesics, nitrogen mustard, methonium compounds, newer vasodilators, PAS and the therapeutic results in many diseases, are discussed in this useful book.

SURGERY OF THE MOTOR-SKELETAL SYSTEM

Surgical Treatment of the Motor-Skeletal System (*Parts 1 and 2*). Supervising Editor: F. W. Bancroft, *A.B.*, M.D., F.A.C.S. Associate Editor: H. E. Marble, *A.B.*, M.D., F.A.C.S. (Pp. 636, with 519 illustrations and one colour plate. Second edition. £9 9s. a set.) London, Philadelphia, Montreal: J. B. Lippincott Company. 1951.

Part 1. Contents: Section 1: Deformities. 1. Congenital Anomalies of Upper Extremity and Shoulder Girdle. 2. Congenital Deformities of the Spine. 3. Congenital Deformities of Lower Extremities. 4. Congenital Dislocation of Hip. 5. Acquired and Static Deformities of Lower Extremities. 6. Surgical Treatment of Scoliosis.

Section 2: Paralytic Disorders. 7. Anterior Poliomyelitis. 8. Treatment of Paralytic Disorders Exclusive of Poliomyelitis.

Section 3: Affections of Back, Muscles, Fasciae, Tendons, Bursae and Ganglia. 9. Low-Back Pain. 10. Affections of Muscles, Fasciae, and Tendons (Except Tumours and Trauma). 11. Affections of Bursae and Ganglia.

Section 4: New Growths. 12. Tumors of Bones and Joints. 13. Tumors of Muscle, Fasciae, and Tendons.

Section 5: Diseases of Bones and Joints. 14. Tuberculosis of Bones and Joints. 15. Joint Infection and Arthritis (Except Tuberculosis). 16. Hematogenous Osteomyelitis. 17. Miscellaneous Bone Disease and Infection. 18. Nontraumatic Affections of Epiphyses.

Section 6: Amputations. 19. Amputations, Disarticulations, and Prostheses. 20. Amputations in Diabetes and Vascular Disease. 21. Kineplastic Amputations.

Part 2. Contents: Section 7: Bone Repair. 22. The Physiology of Bone Repair.

Section 8: Fractures and Dislocations in General. 23. General Discussions of Fractures, Dislocations and Other Trauma. 24. Compound Fractures.

Section 9: Fractures and Dislocations of Face. 25. Fractures of Facial Bones. 26. Fractures of Jaws.

Section 10: Fractures and Dislocations of Trunk. 27. The Spine. 28. Treatment of Fractures of Pelvis, Sacrum, and Coccyx. 29. Injuries to Ribs, Costal Cartilages, Sternum, and Sternoclavicular Joint.

Section 11: Fractures and Dislocations of Upper Extremities. 30. Injury to Shoulder Girdle. 31. Fractures of Humerus. 32. Fractures and Dislocations Involving Elbow Joint. 33. Treatment of Fractures of Bones of Forearm. 34. Fractures and Dislocations of Carpus. 35. Fractures and Dislocations of Metacarpals and Phalanges.

Section 12: Fractures and Dislocations of Lower Extremities. 36. Hip Fractures. 37. Fractures of Shaft of Femur. 38. Fractures and Dislocations Involving Knee Joint. 39. Internal Derangements of Knee Joint. 40. Fractures of Shafts of Tibia and Fibula. 41. Fractures of Ankle and Foot.

Section 13: Sprains, Sprain-Fractures, Muscle and Tendon Injuries. 42. Treatment of Sprains, Including Marginal Joint Fractures. 43. Contusions, Strains, Sprains and Avulsions of Muscles, Tendons and Ligaments.

Section 14: Birth Injuries of Motor-Skeletal System. 44. Skeletal Birth Injuries. Index.

This work represents the combined efforts of 46 contributors, and to read through the list of their names is like looking through the *Who's Who* of American orthopaedic surgeons. The warp and woof of the subject matter is thus fairly representative of American orthopaedic opinion. The second edition has Dr. Henry Marble as the associate editor, replacing the late Dr. Murray.

There is an extensive bibliography at the end of each chapter, sufficient to satisfy the reader with the most catholic of tastes, although it is perhaps a little disappointing to find that British authors are not quoted more widely. This is not an uncommon finding in American books.

Many of the chapters have been rewritten and a new chapter on the *Physiology of Bone Repair* has been included.

There is so much in this book that bears the hall-mark of authoritative writing, that it is almost invidious to choose particular chapters for comment. However, one must draw attention to the excellent chapter on the treatment and management of spastics by Dr. Phelps, a world authority on the subject.

In the discussion on the *Physiology of Bone Repair*, the author points out that avitaminosis of vitamins A, D and E have little, if any, effect on new bone formation. This is of particular significance to us in South Africa, where we have a high degree of malnutrition amongst non-Europeans. It is further shown 'that feeding of an excess of vitamins, minerals or other known dietary substances does not appear to accelerate fracture healing, and results only in immediate excretion of the surplus, if the body stores of the materials are already adequate. . . . It appears as if the fracture callus, a site of the most vigorous new growth in the body, holds the highest priority on all tissue-building materials'.

The discussion on the treatment of compound fractures is excellent. It contains plenty of sound advice, and if it is read and digested, especially by the surgeon who only occasionally indulges in the surgery of trauma, it is probable that there will occur fewer cases of non-union, or wounds with chronic discharging sinuses and sequestra. Throughout stress is laid on the basic fact that chemotherapy and antibiotics have not displaced the sound fundamental principles of surgery, but are merely additional weapons in the surgeon's armamentarium for dealing with this problem.

The chapter on the treatment of hand injuries contains an abundance of sound principles. Although the results of treatment of compound fractures of the hand are bad, 'there is indeed a golden period for wound debridement and primary closure, but it should not be forgotten that there is still a silver period in which to salvage lost opportunities'.

The treatment of scoliosis is covered very adequately. Unfortunately, in South Africa we have not yet obtained the extensive facilities which these cases require for their management. In particular, there is a crying need for Bone Banks, which are necessary to supply the large amounts of bone required for grafting the spines in these cases after adequate correction has been obtained by other methods.

This is an excellent book, well printed and illustrated. The Editors deserve every credit for their achievement in correlating the contributions of so many authors into a well-balanced whole.

CLINICAL SYMPTOMS

Major Symptoms in Clinical Medicine. By John Almeyda, M.R.C.P., D.P.H. (Lond.), M.R.C.S. (Eng.) Volume Two. (Pp. 369-704 + viii, with 137 illustrations, six in colour. 25s.) London: Henry Kimpton. 1951.

Contents: Section VI. Neurological Symptoms. 1. Abnormalities of the Cerebrospinal Fluid. 2. Hydrocephalus. 3. Abnormalities of the Sense of Smell. 4. Disturbance of Vision. 5. Abnormal Ocular Movements. 6. Pupillary Changes. 7. Facial Pain. 8. Facial Paralysis. 9. Vertigo. 10. Deafness. 11. Tinnitus. 12. Glosso-Pharyngeal Pain. 13. Disturbances of Taste. 14. Disorders of Speech. 15. Motor Disturbances of the Tongue. 16. Abnormal Forms of Sleep. 17. Insomnia. 18. Coma. 19. Convulsions. 20. Headache. 21. Motor Paralysis. 22. Involuntary Movements. 23. Ataxia.

Section VII. Psychological Symptoms. 1. Anatomical and Physiological Aspects. 2. Disorders of Perception. 3. Disorders of Memory. 4. Disorders of Thought and its Content. 5. Disorders of Conduct. 6. Disturbance of Consciousness.

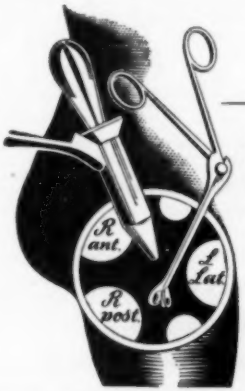
Section VIII. Dermatological Symptoms. 1. Anatomical and Physiological Aspects. 2. Sensory Disturbances of the Skin. 3. Vascular Disturbances of the Skin. 4. Colouration and Pigmentary Changes in the Skin. 5. Disorders of Skin Texture. 6. Disorders of the Sweat Glands. 7. Disorders of the Sebaceous Glands. 8. Disorders of the Hair. 9. Nail Abnormalities.

Section IX. Locomotor Symptoms. 1. Anatomical and Physiological Aspects. 2. Fibrositis. 3. Arthritis. 4. Bone Abnormalities. 5. Bone Pain.

Section X. Endocrine Symptoms. 1. Anatomical and Physiological Aspects. 2. Disturbances of Menstruation. 3. Gigantism. 4. Dwarfism and Infantilism. 5. Frigidity and Passion. 6. Obesity. 7. Pigmentation. 8. Sterility. 9. Tetany. 10. Hypertrichosis. 11. Impotence. Index.

Major Symptoms in Clinical Medicine is published in two volumes. This, the second, deals with neurological, psychological, dermatological, locomotor and endocrine symptoms. The paper is of good quality and the type clear. The text is illustrated with diagrams and photographs, many of these borrowed (with acknowledgments) from well-known textbooks.

The idea of approaching disease through the presenting symptoms is not new and has its uses. It depends, however, too much on memory and too little on thinking. This is extremely well brought out in this book. It consists largely of short quasi-physiological introductory paragraphs with the subject matter being little more than a list of possible causes. Inaccuracies are not few: splinter-shaped haemorrhages in the nails found in infective endocarditis are called 'Osler's spots' and the changes in the terminal bones, at times associated with suppurative lesions, 'osteo-arthritis'. The reviewer feels that the aim 'to assist the candidate for higher degrees and diplomas, to aid the elementary examinee and to afford the practitioner the opportunity of increasing his knowledge of major symptoms indicative of disease', has not been achieved; and that students, both graduate and post-graduate, have better sources at their disposal.



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ANAESTHETICS FOR STUDENTS

Anaesthetics for Medical Students. By Gordon Ostlere, M.A., M.B., B.Chir. (Camb.), D.A. Second Edition. (Pp. 108 + vii. 8s. 6d.) London: J. & A. Churchill, Limited. 1951.

Contents: 1. Introductory. 2. The Patient. 3. The Airway. 4. The Signs of Anaesthesia. 5. The Anaesthetic Drugs. 6. Apparatus. 7. Endotracheal Anaesthesia. 8. The Condition of the Patient: Shock. 9. Post-operative Complications. 10. Local and Spinal Analgesia. 11. The Choice of Anaesthetic. 12. How to Give an Anaesthetic. Index.

Gordon Ostlere's compact *Anaesthetics for Medical Students* is one of the most sensible student guide books this reviewer has ever read. The author is brief and to the point, outlining all the essentials in the approach to anaesthesia. His brisk, informal style assures the student's attention.

BIOLOGICAL ORGANIZATION AND THE BIOCHEMIST

The Biochemical Approach to Biological Organization. By Ernest Baldwin. An Inaugural Lecture delivered at University College, London, 31 May 1950. (Pp. 20. 3s. 6d.) London: H. K. Lewis & Company, Limited. 1951.

All those who have read his *Dynamic Aspects of Biochemistry* will approve of Professor Baldwin's appointment to the Chair of Biochemistry at University College. In this inaugural lecture he records the retreat of vitalistic philosophers to a final stronghold in the region between the microscope and the test tube which is the domain of the biochemist. Here he hopes that vitalism may soon find a decent burial.

As the knowledge of biology at molecular and biochemical levels increases, the extent to which animals, plants and bacteria make use of similar reactions becomes more impressive and it seems that there may be a fundamental ground-plan to which all living organisms conform. On this foundation numerous individual secondary systems are built.

It is the lecturer's conviction that the systematic application of biochemical techniques will reveal the fundamental laws governing the activity of all living things and that it will be through its development that we shall arrive at last at the physico-chemical principles that underlie the manifestations of what we call 'life'.

BIOCHEMISTRY

Biochemistry for Medical Students. By William Veale Thorpe, M.A. (Cantab.), Ph.D. (Lond.) Fifth Edition. (Pp. 528 + viii, with 41 illustrations. 22s. 6d.) London: J. & A. Churchill Limited. 1951.

Contents: *Part I.* 1. Introduction. 2. Acidity and Alkalinity. 3. Water. 4. Water (contd.). 5. Carbohydrates. 6. Fats and Related Compounds. 7. Proteins. 8. Nucleic Acids. 9. Animal Pigments. 10. Enzymes. 11. Oxidation and Reduction. 12. Blood. 13. The Composition of the Tissues.

Part II. 14. The Biochemistry of Digestion. 15. The Biochemistry of Absorption. 16. The Use of Isotopes in Biochemical Investigations. 17. Utilization of Carbohydrates. 18. Utilization of Lipids. 19. Utilization of Proteins. 20. Utilization of Proteins (contd.). 21. Utilization of Proteins (contd.). 22. Metabolic Interrelationships of Carbohydrate, Fat and Protein. 23. Metabolism of Foreign Organic Compounds. 24. Calcium and Phosphorus Metabolism. 25. Mineral Metabolism. 26. The Utilization of Oxygen and Excretion of Carbon Dioxide. 27. The Chemistry of the Hormones. 28. Vitamins.

Part III. 29. The Energy Requirements of the Body. 30. Principles of Nutrition. 31. The Nature and Composition of Common Foods. 32. Excretions. Appendix. Bibliography. Index.

Dr. Thorpe's well-known textbook on *Biochemistry for Medical Students* is used very extensively in medical schools throughout the English-speaking world. The new edition contains many important changes, and South African students, whose attention has been drawn so vigorously to the nutrition requirements of our population, will find particularly valuable the reproduction of the recommendations for daily allowances proposed by the British Medical Association and the National Research Council of the United States of America. These are important for comparison and contrast.

Biochemistry has come to play a much more important role in the education of the medical student than ever before. Dr. Thorpe's comprehensive handbook forms a very adequate reference for the modern student of medicine.

CONGRESS ON OBSTETRICS AND GYNAECOLOGY

Transactions of the International and Fourth American Congress on Obstetrics and Gynaecology. Edited by George W. Kosmak, M.D. (Pp. 823 + xvi, with illustrations. £5 14s. 9d.) St. Louis: C. V. Mosby Company. 1951.

Contents: 1. Address of Welcome. 2. Introduction to the Program. 3. The Implantation and Early Development of the Human Ovum. 4. Pregnancy Following Endometrial Homotransplantation. 5. On Some Hormonally Induced Complications of Gestation. 6. Contractility of the Human Uterus and Its Physiological Basis. 7. The Management of Breech Delivery. 8. The Management of Occiput Posterior Positions. 9. Pituitary Extract in Uterine Inertia. 10. Genetics in Cancer. 11. The Relationship of Viruses to Neoplastic Disease. 12. Hormonal Factors in Experimental Ovarian Tumorigenesis. 13. The Specific Toxemia of Pregnancy. 14. Studies on the Circulation in Normal and Toxemic Pregnancies. 15. The Etiological Aspect of Toxemia of Pregnancy and Abruptio Placentae. 16. Some Present Trends in the Management of the Toxemias of Pregnancy. 17. Summary. 18. Experience with Radiotherapy in Carcinoma of the Uterine Cervix. 19. Treatment of Cancer of the Cervix: Operation or Radiotherapy. 20. The Early Diagnosis of Uterine Cancer. 21. The Nuclear Cytology of Cancer of the Uterus. 22. Introductory Remarks by the Chairman. 23. Shifting Trends in Abdominal Hysterectomy. 24. The Role of Vaginal Hysterectomy in Gynecology. 25. The Logical Approach to Prolapse. 26. Flexibility of Thought in the Treatment of Prolapse of the Uterus. 27. The Technique of Vaginal Hysterectomy for Uterine Prolapse. 28. Procedure for the Immediate Care of the Newborn. 29. The Influence of Inherited Cranial Form on the Course of Labor. 30. Local and General Penicillin Therapy in Cesarean Section. 31. Prophylaxis of Operative Delivery through the 'Corrected' Birth. 32. Oxidation-Reduction Potential Level, Fertilization *in Vitro* of Mammalian Ovum. 33. Tuberculosis of the Female Genital Tract and its Detection by Examination of the Uterine Secretions. 34. Creation of a New Vagina with Amniotic Membranes. 35. The Management of Uterovaginal Prolapse in Women Desirous of Having Children. 36. The Pathology of Thromboembolism in Obstetrics and Gynecology. 37. Treatment of Varicose Veins in Pregnancy. 38. The Use of Anticoagulants in the Treatment of the Thromboembolic Complications of Obstetrics and Gynecology. 39. Prevention and Surgical Management of Thromboembolic Disease. 40. Indications and Contraindications for Cesarean Section. 41. Present Trends in Technique and Anesthesia for Cesarean Section. 42. Pregnancy and Delivery Following Cesarean Section. 43. The Obstetrical Future of Cesarean Patients. 44. Treatment of Cervical Cancer. 45. Radical Vaginal Panhysterectomy and Extraperitoneal Pelvic Lymphadenectomy. 46. Metrorrhagic During Puberty. 47. Our Experiences in the Use of Decker's Culdoscope. 48. Exfoliative Cytology by 'Phase Contrast' Microscopy. 49. Introductory Remarks by the Chairman. 50. Reproductive Wastage: Its Medical, Economic, and International Aspects. 51. Graduate and Postgraduate Medical Education. 52. Diabetes in Pregnancy. 53. The Management of the Pregnant Diabetic Patient. 54. Observations on the Offspring of Diabetic Mothers. 55. Metabolic Aspects of Diabetes. 56. The Classification of Cervical and Other Genital Cancer. 57. Endocrine Therapy in Gynecology, Its Aims and Its Possibilities. 58. Uterosalpingography as an Aid in the Different Diagnosis of Uterine Bleeding. 59. The Importance of Antibiotics in Obstetric Surgery. 60. The Nature of the Blood Coagulation Mechanism and Its Relationship to Some Unsolved Problems in Obstetrics and Gynecology. 61. Indications for Total Hysterectomy in Nonmalignant Conditions of the Uterus. 62. Prophylactic Attempts to Control Fetal Erythroblastosis by Diet. 63. Reflections on Ectopic Pregnancy. 64. The Clinical Method (HBEs) of Diagnosis of Uterine Chorionepithelioma. 65. The Use and Abuse of Endocrine Therapy. 66. Symposium on Endometriosis. 67. On the Pathogenesis and Life History of Endometriosis. 68. Clinical Aspects of Endometriosis. 69. Experimental Endometriosis. 70. Endocrinological Aspects of Gynecology. 71. The Battle Against Maternal Mortality in the Republic of Uruguay. 72. On the Early Variation of the Number of Cases of Certain Obstetrical and Gynecological Disorders in Japan from 1936 to 1947, with Special Reference to the Influence of the War. 73. Some Aspects of the Renal Physiology During Pregnancy and Their Pathological Consequences. 74. The Kidney in Abruptio Placentae. 75. The Factors which Influence the Prognosis in Cancer of the Cervix. 76. Carcinomas of the Genital Zone. 77. The Treatment of Cancer of the Cervix by Radical Vaginal Operation. 78. Genital Cancer and Pregnancy. 79. General Discussion of the Treatment of Corpus Carcinoma. 80. Opening Remarks by the Chairman. 81. Tubal Obstruction as a Cause of Sterility and Its Nonoperative Treatment. 82. The Importance of Simultaneous Evaluation of the Husband and Wife in a Sterile Marriage. 83. Physiology of the Isthmus Uteri and Its Part in Sterility and Habitual Abortion. 84. Rational Endocrine Therapy in Infertility. 85. Opening Remarks by the Moderator. 86. The Association of Intercurrent Disease and Obstetric Shock. 87. Hemorrhage of the Third and Fourth Stages of Labor. 88. Alterations in the Coagulation Mechanism as a Cause of Intra- and Postpartum Hemorrhage. 89. Tissue Changes in Shock Obstetrics. 90. Diagnostic Test of Gonadotrophins in Amenorrhea. 91. Studies on Crystallization of Cervical Mucus and Its Relationship to Cervical Receptivity of Spermatozoa. 92. Clinical and Experimental Effect of Vitamin A on Premenstrual Tension. 93. Variations in Antihistaminic Properties of the Serum During the Menstrual Cycle. 94. The Piloted Delivery in Saddle Block Anesthesia. 95. Urinary Factors Regulating the Menstrual Flow. 96. Our Experience with the Wertheim Operation.

The American Committee of Maternal Welfare, having previously organized three American Congresses devoted to Obstetrics and Gynaecology and allied subjects, decided in 1950 to sponsor the Fourth American and First International Congress to be held in America.

The transactions of this meeting thus cover advances in

obstetrics and gynaecology made all over the world during the war and post-war years.

Over 3,500 delegates attended, nearly every country in the world being represented except those behind the Iron Curtain.

The published transactions have all been translated into English and at the congress simultaneous translations were provided in French, German and Spanish.

As expected, in obstetrics and gynaecology many of the views expressed differed greatly. Opinion is seen still very much divided on the treatment of severe degrees of prolapse and whether or not vaginal hysterectomy should be done, even when no uterine pathology is present.

The Spalding-Richardson composite type of operation in which the cervix is amputated as in the Manchester operation and then a vaginal subtotal hysterectomy done, leaving a stump of supravaginal cervix behind, is advocated enthusiastically by te Linde. This operation is also illustrated.

One notes that there is still a difference of opinion on the merits of early rising, some world-famous authorities stating that they believe it results in an increased incidence of prolapse; others that it is important in preventing this condition.

Of local interest is the fact that the work done by a Cape Town graduate and others at the British Postgraduate School on the treatment of the anuric syndrome was not dealt with in the papers on toxaemia. Professor James Young in leading the discussion however, drew attention to this advance.

The papers and discussions covered every possible subject and there is no doubt that the publication committee has done all those who were unable to attend the congress a great service by having the proceedings published.

CORRESPONDENCE

Ultrasonic Waves and Treatment

To the Editor: The opinion in the article *Ultrasonic Waves and Treatment* is a one-sided even partially erroneous view of this therapy. The author concluded from the fact of experimental possibility of injuries that real danger in fact is present, which threatened the patients treated with ultrasonic waves. Without doubt it is possible to injure the human tissues in various degrees from functional and reparable to even irreparable changes with ultrasonic waves, just as with any other biologically effective form of energy. As in the therapy with X-rays, so also in ultrasonic therapy, exact indications, exact doses and proper techniques of treatment are necessary. By the knowledge of contra-indication the physician is saved from unintentional consequences or accidents. Since there are mechanical oscillations spreading throughout the tissues by known physical laws, the doctor has to realize the anatomical relations. Therefore the beam into the body has to go only across some defined regions of the skin. The parts to be treated and the dose also must be as little as possible. By massage-like movements the effect of interference is avoided and the energy is distributed equally.

Each new therapy is in the greatest peril to be recommended for lots of diseases. That took place also for therapy with ultrasonic waves. The pioneers break ground and tried to apply the new therapy in as many diseases as possible. The verifications usually lead to significant restrictions. In general, the therapy with ultrasonic waves shows a good and rapid effect in the following diseases: chronic rheumatic diseases, some neuralgias, especially sciatica (also those which are caused by herniation of intervertebral disc), spondylarthrosis ankylopoietica (Bechterew's disease), peritendonitis calcarea of shoulder joint, lumbago, degenerative joint diseases, e.g. arthrosis deformans, some diseases of the vessels, e.g. ulcers caused by varicose veins (but a contra-indication are ulcers after thrombosis) and, last but not least, circumscript inflamed processes such as tenosynovitis, superfacial periostitis.

On the other hand, we do not believe that there is a therapeutic effect in ulcers of stomach or duodenal ulcers, cholecystitis or other abdominal diseases, because the properties give no points of attack for this therapy. Also in asthma bronchiale, emphysema of the lung and other diseases recommended for therapy by several authors, we suppose that there is rather a psychotherapeutic than a biophysical effect of the ultrasonic energy.

In the past 2 years in Berlin we have treated about 5,000 patients with ultrasonic therapy (either in hospital or ambulatory), we have made controls with exact statistical methods and have found that a real success only is to be expected within the abovementioned range of indication. In our opinion this new manner of treatment is an advance in physical therapy. It may be used either alone or as a supplement to other approved procedures of hydrotherapy, massage and gymnastics. Attempts at unfit objects, of course, bring the method into discredit. It is not an indifferent therapy and therefore should be only practised by physicians with a good knowledge of physical therapy. Also the demand to the industry is indispensable to deliver an efficient and reliable apparatus. In Germany independent control staffs are constituted, controlling the construction of the apparatus and prove their function.

Recently many publications appeared and several international congresses on ultrasonic therapy in Germany and Italy have taken place. But this paper is not intended to give details about all the interesting problems about mechanisms of biophysical effect, technique of treatment, dose, etc.

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F. A. Pezold.

Medical Clinic,
Free University,
Berlin.
24 January 1952.

Part-Time District Surgeons

To the Editor: As Secretary-Treasurer of the District Surgeons' Society, I am obliged to reply to *Part-time District Surgeon* whose letter appeared in your *Journal* of 9 February 1952.

Your correspondent is quite correct in assuming that 'a District Surgeons' Society exists somewhere'. It is, however, not as 'dormant' as your correspondent believes. If *Part-time District Surgeon* had taken the trouble to join the Society—something he should have done long ago—he would know that a deputation consisting of the Chairman, Secretary and a Committee Member had a personal interview with the former Minister of Health (Dr. A. J. Stals) and the Secretary of Health in February 1950. The late Dr. Stals agreed that certain fees of part-time District Surgeons had to be revised and promised a definite increase. Since the death of Dr. Stals I have written several letters to the present Minister of Health, who promised an immediate investigation of the emoluments of part-time District Surgeons. He also pointed out that this would take quite some time and one can only hope that once some definite increases are made, they will take effect from some remote date in the past.

I would like to point out, however, that I personally have had 2 increases in salary since I was appointed District Surgeon in 1942. It only rests with the particular part-time District Surgeon to prove to the Department of Health that such an increase is necessary and the Department has never, to my knowledge, been unreasonable. However, I will agree that the Department of Public Health 'is a hard nut to crack'.

Perhaps if *Part-time District Surgeon* joins the District Surgeons' Society, he 'will yet be found to be the organizing genius who could revitalize the Society into action and weld it into a solid front capable of negotiating with the Department'. I will gladly relinquish my job as Secretary-Treasurer to him.

P. G. J. Koornhof, M.B., Ch.B., D.P.H.,
Honorary Secretary-Treasurer,
District Surgeons' Society.

P.O. Box 335,
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27 February 1952.

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(952) South-western town. Assistant/locum required with definite view to partnership. Preferably married man. Some surgical experience required.

ASSISTANTS : LOCUMS AVAILABLE

(969) Lady doctor, qualified Cape Town 1950, immediately available as locum or assistant in Port Elizabeth and vicinity.
(844) Thoroughly bilingual experienced G.P. also with extensive experience of gynaecology and obstetrics and operative work, aged 30, is available immediately to undertake locum engagements until June 1952 in Peninsula and environs.

* * * *

JOHANNESBURG

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Mediese Huis, Esselenstraat 5. Telefone 44-9134-5, 44-0817

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(L/V197) Afrikaanssprekende plaasvervanger vir 5 maande vanaf 1 April 1952. Salaris £75 per maand en alles vry. Indien getroud, gemeubeleerde woonhuis beskikbaar.
(L/V204) Transvaal town, 45 miles from Johannesburg. For month of April. Salary £70 p.m. all found and car allowance.
(L/V186) Natal. Locum for month of April. Terms £2 2s. p.d. all found and car allowance. Must have own car.
(L/V202) Southern Transvaal. Locum from April for 9 to 12 months in partnership practice. Salary and allowances to be arranged.
(L/V205) 35 miles from Johannesburg. Locum for June and July. Bilingual gentile. Salary £2 12s. 6d. p.d. all found. Alternate nights off.
(A/032) Transvaal town. Assistant required with definite view to partnership. Preferably married man. Must have extensive surgical experience. Terms to be discussed.

MEDICAL EQUIPMENT

(I/028) Instomatic Cardiette in excellent condition, with universal lead selector attachment. Price £180.

* * * *

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112 Medical Centre, Field Street. Telephone 24049

PRACTICES FOR SALE : PRAKTYKE TE KOOP

(PD6) Radiological practice, established 1923, in large coast city. Equipped for diagnosis, superficial and deep X-ray therapy and also superficial radium therapy. Extensive ground-floor rooms to be taken over on long lease. Premium required £6,750 cash, or terms arranged under suitable guarantees. For immediate sale.
(PD7) Solus prescribing practice on Natal South Coast. Scope for Native practice which at present is discouraged. Hospital facilities available at Port Shepstone Hospital, approximately 10 miles from consulting rooms. Premium required £2,500, which includes instruments, drugs, and furniture. Cash is preferred, but terms could be discussed. It is preferred not to sell this practice before the end of June 1952, but introduction could commence without delay and principal will allow half the net income. No appointments held. House is for sale at £4,500, partly furnished, but is not part of the practice.

Public Service Commission

VACANCIES IN THE PUBLIC SERVICE

1. The attention of medical practitioners, registered with the South African Medical and Dental Council, is drawn to an advertisement appearing in the *Government* and *Provincial Gazettes* of this week, inviting applications for the undermentioned posts:—

Post	*Department/ Administration*	*Salary Scale* £
Medical Inspector of Hospitals	Natal Provincial Administration	1,200×50—1,350
District Surgeon, Grade II	Health (East London)	1,000×50—1,200
District Surgeon, Grade III	Health (Pretoria and Relief Staff, Pretoria)	900×50—1,150

2. In addition to salary a cost-of-living allowance at the rate of £256 per annum (married) and £80 per annum (single) is payable at present.

3. It is emphasized that full and detailed particulars of qualifications and previous experience (including military service) must be furnished, but original certificates and testimonials should not be submitted. Application forms Z. 83 and P.S.C. 8 (*a*) are obtainable from the Secretary, Public Service Commission, Pretoria, to whom filled-in forms must be addressed.

4. The closing date for the receipt of applications is 19 April 1952.

MvdM 34293

Transvaal Jewellers' and Goldsmiths' Sick Benefit Fund

Applications are invited from general practitioners for the post of Medical Officer to the above Sick Benefit Fund in Pretoria. The fund has approximately 30 European members and 70 non-European members. Applications must reach the Secretary not later than 31 March 1952. Further information may be obtained from the Secretary, Box 8530, Johannesburg, or Telephone 33-4056. This appointment is approved by the Medical Association.

St. John Ophthalmic Hospital

Applications are invited from suitably qualified medical practitioners for the position of Registrar to the above-mentioned hospital. Salary according to qualifications and experience.

Applications should be submitted to the Secretary, P.O. Box 7137, Johannesburg, not later than 15 April 1952.

Oostelike Vrystaat-Praktyk

Grens van Basutoland. Bruto inkomste 1951, £3,300. Kontant inkomste van Naturellepraktyk £2,000. Goeie geleentheid vir uitbreiding. Skryf aan 'A. L. E.', Posbus 643, Kaapstad.

BRASS PLATES
TO MEDICAL COUNCIL SPECIFICATION
VICTOR C. GLAYSHER
165 BREE STREET
CAPE TOWN
PHONE
2-5111

South African Railways and Harbours Sick Fund

APPOINTMENT OF RAILWAY MEDICAL OFFICER: FICKSBURG

Applications are invited from registered medical practitioners for the position of Railway Medical Officer, Ficksburg, and for the section of railway line to Fouriesburg (exclusive), at a salary of £221 per annum, plus the fees and allowances prescribed by the Regulations of the Sick Fund, and with the right of private practice.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Sick Fund, and will be subject to termination on 4 months' notice being given by either side.

The successful candidate will be required to reside at Ficksburg, to take up the appointment on a date to be arranged, and to carry out his duties in accordance with the Regulations of the Fund.

Applications should reach the District Secretary, District Sick Fund Board, 2 Charles Street, Bloemfontein, not later than 19 April 1952, and should state:—

1. Full name.
2. Qualifications (where and when obtained).
3. Experience (where and when obtained).
4. Date of birth.
5. Country of birth.
6. Whether married or single.
7. Whether fully bilingual.
8. Whether South African citizen.
9. Whether Government appointment, if any, is held.

Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars required may be obtained from the District Secretary at the above address, on application.

P. J. Klem
General Secretary

Johannesburg
29 February 1952

For Sale

Well-established medical practice for sale in Southern Suburbs. Beautiful house available. Principals only. Reply 'A. L. C.', P.O. Box 643, Cape Town.

Wanted

Solus practice, partnership or assistantship with view wanted by Jewish doctor, 8 years qualified, 6 years general practitioner in country. Wishes to settle in larger town. Write: 'A. L. D.', P.O. Box 643, Cape Town.

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Bookkeeping, Duplicating, Typing, Addressing neatly and carefully done. Ask for latest price list. Bookkeeping and Duplicating Services, P.O. Box 6296, Johannesburg. Telephone 23-1039 (3–5 p.m.).

Patent for Sale or Licence

The Proprietors of Union Patent No. 8817, for process for producing molecularly more uniform dextran products for pharmaceutical and therapeutical preparations, are desirous of entering into arrangements, on reasonable terms, by way of licence or otherwise, to ensure its practical working in the Union. Write to C. & R. Ovendale, P.O. Box 3146, Johannesburg.

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